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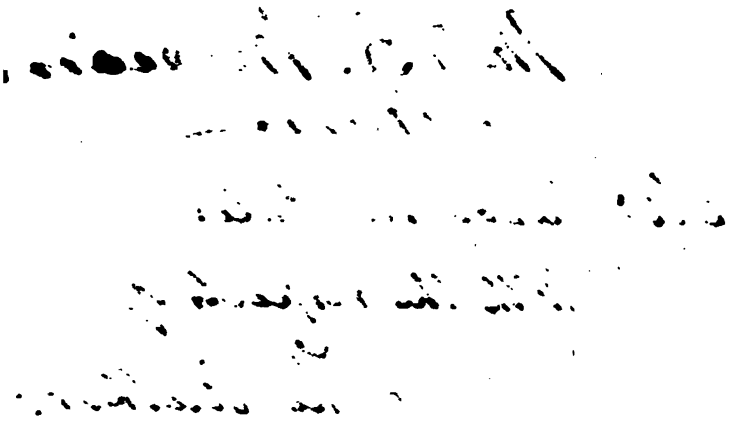

PRIZE ESSAY.

THE TEACHER'S MANUAL:

BEING

AN EXPOSITION

OF

AN EFFICIENT AND ECONOMICAL SYSTEM OF EDUCATION,

SUITED TO

THE WANTS OF A FREE PEOPLE.

BY THOMAS H. PALMER, A. M.

"First, must the *dead-letter* of 'Education' own itself dead, and drop, piecemeal, into dust, if the *living spirit* of 'Education,' freed from this, its charnel house, is to arise on us, and with new healing on its wings." — CARLYLE.

BOSTON:
MARSH, CAPEN, LYON, AND WEBB.
1840.

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ADVERTISEMENT.

In the year 1838, the American Institute of Instruction offered a Prize of Five Hundred Dollars, for, (to quote the words of the proposal) "the best Essay on a system of Education best adapted to the Common Schools of our country, to embrace the formation of School Districts, the construction of School-houses, and the entire course of School Education, from the most elementary department to the highest embraced in our public schools;—it being understood, that the premium will not be awarded, if no Essay be presented, which, in the opinion of the Directors of the Institute, shall be worthy of it."

The Committee, appointed to examine the Essays that should be offered, were the Hon. William B. Calhoun, of Springfield, Mass., George B. Emerson, Esq., of Boston, and Emory Washburn, Esq., of Worcester, who, in November, 1839, reported to the Directors, that they had unanimously agreed to award the Prize to the Author of the following Essay. In the performance of this duty, however, it is not to be understood, that each member of the examining Committee endorses every sentiment or opinion embraced in the work. Such a concurrence would be hardly possible, where so great a variety of topics is discussed.

But, in presenting their Report on the subject, the Committee declared, that, in their opinion, the Essay was a production of the very first order, and one which could not fail to be highly instructive to all teachers, and friends of Common Schools, in our country. From the intelligence of the Committee, who awarded the prize, there cannot be a doubt, that their opinion will be fully verified.

Immediately on becoming entitled to the right in the Essay, the Directors of the Institute transferred it to the Hon. HORACE MANN, Secretary of the Massachusetts Board of Education. Under his direction, it is published; and, for the sake of giving to the work the widest circulation possible, the Publishers have come under an engagement to him, that, as soon as it is ready for sale, its exact cost shall be estimated by three disinterested men, and that it shall then be offered to the public, at "*just cost price.*"

PREFACE.

My main objects, in the present Treatise, are fourfold:

I. To show the inequality, inefficiency, and wastefulness of our present system of education: or, to use the words of the motto to the title, to show that it is a mere "dead letter," and cause it to "*own* itself dead, and drop, piecemeal, into dust," so as to enable its "living spirit, freed from this, its charnel-house, to arise on us, with new healing on its wings."

II. To show that an equal, complete, and efficient, system would be productive of an immense saving, both of time, and money:

First, by dividing the schools into two classes, so as to have all the *primary* schools kept *permanently*, in place of for short terms, and the *central*, or high schools, *during the Winter*.

Secondly, by thus providing situations for a body of *permanent*, *experienced*, female teachers, looking solely to their profession for a support, who should take the place of the inexperienced, young girls, who now have recourse to teaching, for mere temporary purposes.

Thirdly, by the establishment of Normal Schools, the time and resources of which should not be squandered in teaching what can readily be acquired elsewhere; but which should confine their attention to real *desiderata*, and

be discontinued, as totally unnecessary, as soon as good models should be spread over the land.

Fourthly, by providing libraries of school-books as well as of books for circulation, and by establishing a system of exchanges among the districts.

III. To examine, thoroughly, the whole system of education, going into the *most minute details*, wherever it is found defective or injurious, and passing, more rapidly, over such parts as require little or no amendment.

IV. To make a commencement on the hitherto-neglected subject of *Morals, for primary schools*, and to place *Discipline* on its proper foundation, the CONSCIENCE.

Many other topics are treated of, incidentally, such as the division of towns into Districts, the laying out of School lots, erecting, lighting, warming, &c., of Schoolhouses, town and county Conventions of Teachers, &c. ; the whole being designed to present a complete and liberal System of Education, suited to the wants of a Free People, in whose hands the whole system of government may be safely entrusted.

For many years, I have been in the habit of entering, in a commonplace book, my own thoughts, as well as extracts from the publications of the day, on the subject of Education. As this was commenced, long before I had any intention of writing on the subject, I have seldom used any discriminative marks, between my own ideas and those of others. It is not improbable, therefore, that, in this Essay, in which, of course, I made free use of my commonplace book, I may sometimes unconsciously have used the words or ideas of others, without giving them proper credit. Should this prove to be the case, in a few instances, I trust the writers and the public will accept of this apology.

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THE TEACHER'S MANUAL.

CHAPTER I.

INTRODUCTORY.

"I call, therefore, a complete and generous education, that which fits a man to perform, justly, skilfully, and magnanimously, all the offices, both private and public, of peace and war." — *Milton.*

In the following pages, it is proposed to inquire, what are the requisites for *a good education for the whole people*, and what are the best means of attaining them; in other words, to present the picture of a good district and town school; or, as they are sometimes called, a primary and high school. It is also proposed to inquire into the best means of *equalizing* the benefits of education; or, more properly speaking, of bringing the means of a thorough education within the reach of *every child* in the community. As having an important bearing on these subjects, the local situation and internal arrangement of schoolhouses will also be taken into consideration. The *Normal School*, or Seminary for Teachers, will also claim its due share of attention.

All this, however, will not be sufficient for the attainment of the great object, which at present occupies so much of the attention of many modern philanthropists,— the physical, intellectual, and moral, improvement of the community, through the medium of schools. The great body of society, particularly in New England, are perfectly satisfied with their present system. It is generally

supposed, that the people owe all that shrewdness and intelligence for which they are so remarkable, and all their industrious and moral habits, to the District School. Hence, it is a very natural inference, that the system cannot be so faulty and imperfect, as is frequently represented; and that, in fact, it would be rather a hazardous experiment, in any way to meddle with it. Before, therefore, we can expect to succeed in producing any beneficial changes, especially where these changes are of a radical nature, it is necessary, clearly and explicitly to show the fallacy of these views. One of the most important objects of this treatise, then, will be, an exposition of the deficiencies and defects of the system now in use, and a demonstration of the fallacy, which would refer all, or even most, of our moral and intellectual worth to School Education.

Let it, however, be distinctly understood, that *all* the deficiencies, defects, and evils, which will be pointed out, do *not* exist in *every* public school. Our system of instruction is at present in a state of transition. Ten years ago, the primary schools were conducted in a uniform routine. In discipline, books, arrangement of studies, and mode of tuition, all were alike. But, so far is this from being the case now, that it would probably be difficult to find two schools conducted on exactly similar principles, on any one of these points. Hence, no description can possibly suit every case. The only practicable method of tracing out and eradicating all the defects of our present system of education, then, is to present a complete and correct picture of the schools in their *worst state*, and to call upon each teacher or parent to apply such features only, as are strictly applicable to his mode of tuition.

For instance, if there be any school in which *reading* is taught intellectually rather than mechanically; where the child has learnt to read in an easy, unaffected manner; his tones all natural, and his delivery exactly as if he were talking on the same subject with his brothers and sisters; if, from first to last, he has understood every word he has uttered, before his lesson was finished; if he

has never read any thing, without being able to close his book, and give a clear, intelligible statement of it; then, the remarks on *reading*, in this treatise, have no reference whatever to *that* school. But, let them not, therefore, be condemned, as inapplicable. There *are* schools, where the pupils are not so favored; where they have been taught to read in a stiff, unnatural manner, without any attention to the sense; to utter, like parrots, mere sounds, without bestowing a thought on the ideas they are intended to convey. It is only to *such* schools, that *all* the remarks on reading are meant to apply.

Between these two kinds of schools, there are various grades. And it is to be hoped, that no teacher, because *every* remark on any one subject is not applicable to him, will, therefore, reject the whole. As was remarked in speaking of the more perfect school, if the whole be not applicable, let that only be used, which will suit the case. Nothing more was *meant* to be applied to that school.

Similar remarks apply to all the branches treated of, whether they relate to physical, intellectual, or moral culture. In the case of morals, for instance, if the pupils have been trained to *feel*, distinctly, the happiness of virtue, the misery of vice; the delights arising from general sympathy and the social affections, and the sordid nature of selfishness; to *see*, clearly, the beauty of placability, forbearance, kindness, and good temper; the hatefulness of moroseness, malevolence, and cruelty; the advantages of industry, perseverance, economy, and temperance; the disadvantages of indolence, instability, extravagance, and intemperance; the complacency arising from love to God, obedience to his commands, and resignation to his will; it is probable, that the teacher of such a school may not derive much personal advantage from the remarks on the deficiencies of the moral department of the schools. Such a teacher, however, *will not* think them unnecessary. He will know, that, however happy may be the exceptions, the field of morality generally lies almost wholly untilled; full of little else than poisonous plants and foul weeds; and he will prize them, even though they may not apply to his own highly-favored school.

CHAPTER II.

WHO ARE OUR SCHOOLMASTERS?

It is very important, especially at the present moment, that we should have a clear, distinct idea of the real value of our primary schools. Let us, then, carefully and candidly inquire, what knowledge they do impart to the mass of the people, to those who have no further advantages of *school* education, leaving, of course, entirely out of view those gifted minds which are scattered sparsely over every country, who rise, *in spite* of every impediment, and to whom, in fact, mankind are chiefly indebted, for their steady progress from barbarism to civilization.

1st. They teach *Reading*. This art may be considered in two points of view: 1. Reading for others, or reading aloud. Many years are commonly spent in the attempt to gain this accomplishment; and very few make any progress, worthy of the name. For where shall we find a reader, who can keep up an interest in an audience for half an hour? It would appear, then, that the time, labor, and money, expended in learning to *read aloud*, is little better than thrown away. 2. Reading for ourselves, or *silent reading*. Have the pupils of the district school acquired this, to any good purpose? Has it opened to them the door of science? Do they make any practical use of it? Are we a reading people? Alas! I fear these questions must be answered in the negative. The boundless stores of knowledge, instead of being at the command of every member of the community, remain as completely a *sealed book*, as if still shut up in the learned languages. Some, it is true, do contrive to spell out a little in the newspaper, and others regularly read their Bible. But is it to any good purpose? Is their reading more than a form? Have we not reason to fear, that an accurate examination would show, that it is little else than a muttering or enunciation of mere sounds, and that, under the heavy labor of bringing them forth, the sense generally escapes?

2d. They teach *Orthography*. Spelling has nothing to do with our present purpose, which relates only to the heart and intellect. It will be fully noticed, in another chapter.

3d. They teach *Arithmetic*. The *form* of this science is taught in our schools, but its true *principles*, buried under a multiplicity of mechanical rules, escape the search of the scholar. He generally forgets the rules a short time after leaving school, though a sufficient knowledge is generally retained for the common business-transactions of the farmer and mechanic. Should more than this be necessary, it must be learned elsewhere. What wonderful returns for the labor of years! more might be acquired in three months, under an intelligent instructer who should pursue a rational course. The great advantage, also, which *might* be derived from the study of this science, the acquisition of habits of reasoning and patient investigation, is entirely lost.

4th. They teach *Geography*. But for what purpose? A knowledge of geography is of exceedingly little use to any but *readers*, to whom, indeed, it is indispensable. Those who do not read will forget almost the whole in a very short time.

5th. They teach *English Grammar*, which claims the high merit of enabling its students to speak and write the English language with purity and propriety. But *do* those who have studied it speak with propriety? Is their language, in any respect, different from that of those around them, who have never opened a book on grammar? As to writing, the critical eye of a grammarian may, it is true, detect an error of syntax; but other sources must be resorted to, for the art of composition. For this, the *structure* of *sentences*, not the mere relations of words, must be understood, and the mind must be stored with *ideas*. Neither of these can be derived from grammar. Such are the studies that occupy the chief part of the time in the primary schools, with, sometimes, in addition, a little writing, and a smattering of natural history. And can it be possible, that the intelligence and sterling worth, for which the community are distinguished, are derived

from such scanty sources as these? The idea is preposterous. Whence, then, are they derived? An attentive observation of the progress of a child, from birth to maturity, will, it is believed, solve the problem. Let us make the attempt.

Man's true nature is spiritual. He is "a *living soul*," clothed, FOR THE PURPOSES OF EDUCATION, with a *fleshly garment*.

At birth, he possesses, along with the seeds of every virtue, and its opposite vice, a capacity for the most unbounded knowledge: but all these, as yet, lie dormant, undeveloped. There is one exception, however, which is, as it were, the germ, or rather the foundation, of all his future acquisitions. By instinct, which is nothing less than God working within him,* he has the power of moving certain muscles. He can cry, suck, swallow, open his eyes. Hunger, which has been denominated the sixth sense, is the main cause of all these motions.

By imperceptible degrees, his muscular powers are extended. In some three or four months, by the exercise of his hands, he acquires faint notions of form and distance: in other words, he has *learned* TO SEE; and now begins to recognise the affectionate being, whose unremitting tenderness watches over his safety, and hourly nourishes him from her own bosom. Delighted with his acquisitions, his thirst for knowledge is continually on the increase. Every object, within his reach, is eagerly seized and examined. His eyes, his ears, his hands, his mouth, are in constant requisition. During his waking hours, he cannot be kept still a moment. To the unobservant, he seems as if inspired with an intense spirit of mischief, an ardent love of destruction. But nothing can be more contrary to the fact. All these movements are caused by the divine love of knowledge, as yet neither broken

* "The bee works most geometrically, without any knowledge of geometry; somewhat like a child, who, by turning the hand of an organ, makes good music, without any knowledge of music. The art is not in the child, but in him who made the organ. In like manner, when the bee makes its comb so geometrically, the *geometry is not in the bee*, but in that *great Geometrician*, who made the bee, and made all things, in number, weight, and measure." — *Reid*.

by disappointment, nor misled by the false philosophy that deals in nothing but empty sounds. In the strange world in which he finds himself, every thing is a marvel; the most common object to us is, to him, full of interest. Hence, not satisfied with skimming the mere surface of things, he tears them apart, or dashes them in pieces, in search of more complete information. It signifies not, that these actions may be partly or wholly instinctive. This is the way, the only way, in which knowledge can be acquired.

For the next nine or twelve months, his education proceeds with the most surprising rapidity. In addition to the immense number of objects, with whose qualities he has made himself familiar, he has learnt to balance and support his body, to walk, and, wonderful to relate, he can perform the miracle of,—*speech!* What an increase of interest does this last give to his studies! To the knowledge of qualities, he now adds that of names, not mere dead vocables, but living language, the materials of thought. Our little philosopher now begins to trace resemblances, to distinguish differences, to generalize, to form his classifications, his theories. To one *class* of objects, he gives the name of *man*, to another, *tree*, to a third, *stone*. And all this, without even the slightest offer of instruction from others. His store of knowledge is all of his own collecting. If he has assistance, it is from Nature alone.

From the age of one year, to that of four or five, the child, under the tuition of his first instructress, Nature, continues steadily and rapidly to advance in the knowledge of his vernacular language. But how does he contrive to add new words to his stock? Deals he in theory, or in practice? Is it by means of the *elements* of words, or *definitions*, or *grammars*? Must he know the names of letters and syllables, before he can acquire a word; and must he rely, for a knowledge of its meaning, on dictionaries, or oral definitions? No, truly. Nature's method is directly the reverse of that of man. By observation he learns a few names, in constant use; and he acquires the knowledge of verbs, qualities, and particles, by *observing*

their connexion with those known names: in other words, *by the context*. Who ever thought of explaining to a child the meaning of the words, *good*, *bad*, *love*, *this*, *he*, *from*, *to*, *for*, &c. Only let the attempt be made, and its utter futility will quickly appear.

Meanwhile, his knowledge of *things* increases as fast as his stock of *words*. His sphere of observation is rapidly extended, and all his senses are engaged in philosophical investigations into the nature of the objects around him; the minerals, vegetables, animals, and works of art, which adorn the earth; the sun, moon, and stars, which embellish the heavens.

While the intellectual powers of the child are thus in a state of progressive developement, his physical education is by no means at a stand. If he have received a moderately healthy constitution from his parents, he delights to spend his time in the open air, where his lungs can have full play, and where his limbs may expand and gain strength, by unrestricted exercise. The children of the poor have here a decided advantage over those of the rich; for such, unfortunately, are the weakness and folly of the latter, that the health of their offspring is too frequently sacrificed, at the shrine of their vanity and love of display. Fashion, that insatiable Moloch, is not content with the consecration, by its devotee, of *his own* soul, purse, and person. It demands, that his *child* shall *pass through the fire*; that, at whatever risk to his health and intellect, his body shall be converted into a mere clothes-screen for the display of the frivolous fancies of the tailor and milliner. Where such a sacrifice has been consummated, it is vain to look, either for strength of body or vigor of intellect. The unfortunate little victim must neither run, climb, wade, roll, nor play. The clothes must neither be torn nor soiled. Every thing must give way to the clothes. And, finally, the child, if he survive, grows up a mere dandy; "a clothes-wearing man; a man whose trade, office, and existence, consists in the wearing of clothes." When shall this base idolatry come to an end? When shall the Moloch of Christendom be pulled from his throne, and cast into that fire, wherein so many

of his victims have perished. This can be accomplished only by a radical change in female education. *Female* influence is, here, all in all.

But to return. During this portion of his life, too, the *moral* sense of the child begins to be developed. He perceives, that there are many other beings in the world besides himself, some of whom have the same claims that he has, on the attention of his parents. He finds out, that he cannot have his own way in every thing; that to attempt it is only to subject himself to suffering; that it is necessary that he should, in some degree, respect the rights of others. Should his parents, at this period, have sufficient tact, to notice and encourage the first appearance of *sympathy with the joys and sorrows of others*, an antagonist to the selfish principle will soon be more or less developed, that may neutralize many of its evil effects; while, on the contrary, should this be neglected, and his selfish views and actions be encouraged, as is too frequently the case, it may probably attain a degree of strength, that may tinge his maturer age with the darkest colors, seriously affecting both his future usefulness and happiness. For no truth in morals is more certain, than that no one can be happy who lives for himself alone; and that the stronger the affections, the greater the chance for felicity.

But who is the great, MORAL SCHOOLMASTER, at this critical period of the child's life? It is PUBLIC OPINION, acting through the *conversation* and *example* of his parents, of his brothers and sisters, and of his other playfellows. It is the combined power of the *whole human race*, which may correctly be denominated CUSTOM, or TRADITION. Through this medium, Moses and the Prophets, Christ and his Apostles, Luther, Calvin, Faust, his pilgrim forefathers, Penn, Washington, Franklin, and even Watt, Fulton, and McAdam, combine, in moulding this precious germ of immortality. Among this host of worthies, however, many evil influences throw their quota into the formation of what may be considered TRADITION. The follies and vices of the surrounding world; the superstitions of our Saxon and Norman ancestors;

nay, the dark blot of slavery, which stains so large a portion of our country, contributes its share in the formation of character, even where it has never existed.

The child has now arrived at the age, at which it is usual for his *school* education to commence, the results of which have already been noticed. Let us continue to observe the results of his education from other sources.

His childish associates now continually increase in number, and, with their extension, his ideas proportionally expand. Nature, likewise, is beheld on a larger scale. He begins to discover, without the aid of books, that the world is not all contained within the narrow circle of his horizon. He hears of richer climes, of the extensive wilds of the unbounded West, and of the crowded marts along the Atlantic coast, in his native land, and of distant seas and foreign lands, beyond them. His parents take him to the HOUSE OF GOD, of whom, already, he has attained some vague, undefined notion. Here, however, whatever may be the case in after years, as yet he gains but little direct instruction. The teacher in that important school is commonly too full of his learning, or has not the talent (and it is one of the first order) of accommodating his language to the comprehension of our pupil, and of the other *children of larger growth*, who listen to his instructions. The indirect influence, however, is powerful.—The town meeting begins to attract his notice. He swallows, with avidity, the political knowledge to be picked up in that arena, and acquires some general ideas of his rights and duties. The district school meeting, also, proves to him a source of information. In those two schools, our future legislators receive their chief training. But most of his knowledge of justice, forms of law, rights, and wrongs, is derived from our judicial establishments, from the more solemn, formal courts in the county town, to the more simple dispensation of right in the justice's office.

Such, independently of the teachings in the district schoolhouse, are the principal *seminaries* for training our youth in knowledge and in virtue. Many other influences, for good and for evil, might be enumerated. But these are sufficient for our purpose.

And now, reader, what thinkest thou of the supply of virtue and intelligence, furnished by our primary schools? At the great table of knowledge, where our youth are fed, where their physical powers and intellectual and moral faculties are nourished and expanded, from their first appearance in the infant, to their full growth in the perfect man, what *proportion* is supplied by SCHOOL EDUCATION *as it is*? Is it really more than

> "A beggarly account of empty boxes,"
> ——"thinly scattered, to make up a show?" — *Shakspeare.*

Are not most of our district schools, places where foundations are laid, upon which no superstructure is to be reared; acquisitions made merely for the rust and the moth to corrupt?*

We shall presently see, what different results might reasonably be expected from the SCHOOL, *as it should be*; where real knowledge should be dispensed, instead of its semblance; kernels, in place of husks and shells. Meanwhile, let us continue our examination of the SCHOOL *as it is*, under the different aspects of physical, intellectual, and moral, education.†

* In a Report on the State of Education in Bengal, published by order of the government of that country, the following melancholy picture is drawn of the state of the schools. We leave it to every one to decide for himself, how much of it is applicable to those of New England. "The scholars are entirely without instruction, both literary and oral, regarding the *personal virtues, and domestic and social duties.* The teacher, in virtue of his character, or in the way of advice or reproof, exercises *no* moral influence on the character of his pupils. For the sake of pay, he performs a menial service, in the spirit of a menial. On the other hand, there is no text or school-book used, containing any *moral truths* or liberal knowledge; so that education, being limited entirely [chiefly] to accounts, tends rather to *narrow* the mind and confine its attention to *sordid gain*, than to *improve the heart* and *enlarge the understanding.*

† In an address delivered at Worcester, Massachusetts, a few years ago, the orator said, "We see the magic influence of our schools, in the habits of industry, sobriety, and order, which prevail in the community; in the cheerful obedience yielded to the laws; and in the acts of charity and benevolence, which are, every day, multiplied around us." This sentence, to be correct, should be read thus: "*If properly conducted*, we *should* see the magic influence of our schools, in the habits of industry, sobriety, and order, which *would* prevail," &c. That the community do possess habits of industry, sobriety, and order,

CHAPTER III.

PHYSICAL EDUCATION.

PHYSICAL EDUCATION relates to the *body*. To it belong the proper training and strengthening of all its powers, and the avoidance of every thing calculated to injure its structure. Nature, here, is the great preceptress. If we only attend to her warnings, we shall seldom go wrong; and, when we neglect them, we are sure of punishment, more or less severe. Our present duty, then, will be, chiefly, to point out the deviations from Nature's course, while the child is at school.

The first and most striking error, in physical education, is the unnecessary confinement to which the child is subjected. At the early age at which he first goes to school, nothing can be more painful, nor more pernicious. No one that has observed a youth, between the age of three and six, can doubt, that Nature requires, that he should be almost constantly in motion, during his waking hours. At this period, he is all activity, for ever engaged in some employment, by which he is acquiring knowledge, at the same time that he is developing and strengthening his physical powers. How painful, then, how unnatural, must be his situation in school! Pent up, for nearly six hours a day, confined to one seat, and that, generally, a very uneasy one, where, notwithstanding, he is forced to sit perfectly still and silent, without employment, (for the pretence of *study*, at that age, is truly ridiculous,) how irksome must be his condition, how prejudicial to his health! And what aggravates the evil is, that it is wholly unnecessary. For the extended confinement defeats the very purpose for which it is imposed. "The body and mind," says Sterne, "are like a jerkin and its lining. If you rumple the one,

is undoubtedly true; but the speaker attributed them to a wrong source. Nor can any one doubt, that the schools might easily be so modified, as to have a powerful influence in improving and extending such beneficial habits.

you rumple the other." Besides the injury to his health, his mind becomes heavy and dull, and his progress, consequently, is not half what it would be under a more rational course. What that course should be, will be pointed out in its proper place.

The next evil, imperatively calling for a remedy, is the improper location of the schoolhouse. This, from a paltry spirit of niggardliness, is usually placed, immediately *on*, nay, sometimes even *in*, the highway, to the constant annoyance of the school, from dust and noise, when it is in a populous neighborhood. There is, commonly, no playground. The scholars must either use the road for that purpose, to the manifest danger of their own lives and limbs, as well as those of passing strangers; or they must trespass on the adjoining property, thus giving rise to disputes and feuds in the community, and, among themselves, to a want of respect for the property of others, leading to various injurious results.

In many places, there is no woodhouse; or, if there be one, it is too small, to accommodate the children, during recess, in bad weather. They are, consequently, confined at such times to the schoolroom, where the checked prompting of Nature to play and exercise spends itself in injuring and destroying the school-furniture.

The schoolroom is too small, either for convenience, comfort, or health. The seats are narrow, and too high for many of the children, so that their feet hang dangling, thus adding to their uneasiness, increasing their restlessness, preventing proper attention to their books, and having, also, a direct tendency to produce deformity in the limbs. For, if the seat be narrow, half the thigh, only, rests upon it; if too high, the feet do not reach the floor. Now, most children go first to school while many of their bones are still in the forming state, little else but gristle, and when any of the numerous joints may be easily loosened or distorted. "They go almost as early as when the Chinese turn their childrens' feet into the shape of horses' hoofs; or when some tribes of Indians make their children's heads as square as a joiner's box. And, at this period of life, the question is, whether the seats shall be conformed

to the children, or the children deformed to the seats. Let any man try the experiment, and see how long he can sit in an upright posture, on a narrow bench or seat, without being able to reach the floor with his feet, and, consequently, with the whole weight of his feet and the lower part of his limbs acting with the power of a lever across the middle of the thigh bones. Yet, to this position, hundreds of children are regularly confined, month after month; and, while condemned to this unnatural posture, Nature inflicts her punishments of insupportable uneasiness and distress on every joint and muscle, if they do sit still, and the teacher inflicts his punishments, if they do not. A gentleman, extensively known to the citizens of this State, for the benevolence of his character, and the candor of his statements, who, for the last twenty years, has probably visited more of our common schools, than any other person in the State, writes to me as follows: 'I have no hesitation in repeating, what I have so often publicly declared, that, from the bad construction of our schoolhouses, there is more physical suffering endured by our children in them, than by prisoners in our jails and prisons.'"* There are no convenient places under the desks, for putting away the books and slates. The closet for hats and coats is small and inconvenient, or altogether wanting, so that the children acquire disorderly and wasteful habits with their clothes, either throwing them, carelessly, on the benches, or heaping them on the table, which leads to a scene of tumult and disorder at the close of the school. The room is badly ventilated, so that, in cool weather, when the doors and windows are kept shut, the children are forced to breath the same air, over and over, until it has become unfit for respiration, thus laying a foundation for debility and disease.

The lighting of the room, also, frequently becomes a source of serious evil. Furnishing too much light is a prominent error in American architecture. The eye quickly accommodates itself to a moderate portion, and the glare of sunshine is always pernicious. A northern

* Report of the Secretary of the Board of Education of Massachusetts, on the subject of schoolhouses.

exposure gives a *steady* light, and is therefore always chosen by the painter and the engraver, who are also careful to avoid *cross* lights. Children, beginning to strain their eyes with small characters, are placed under similar circumstances, and parents would act wisely, if they made for them a similar choice. But, if the building will not admit of such an arrangement, by all means let there be window-curtains, effectually to exclude the direct rays of the sun.

The building is, generally, badly adapted for retaining the heat in Winter. When constructed of wood, the underpinning admits the passage of the cold air under the floor, and there is no plastering below, to intercept it. The feet, consequently, are always cold, and, where that is the case, there can be neither comfort nor health. The window-sashes are sufficiently loose to admit air, and, as there is no warm air introduced to supply the place of that which is consumed by the fire, and carried off by the draught, a steady stream of cold air enters by every crevice, laying the foundation for incurable pulmonary and bronchial complaints.

The management of the stove, in Winter, is almost always bad. Any one that chooses is allowed to fill it; and, as children have little judgment in such matters, and think only of the present moment, it is commonly crammed so full, that those who are near, to escape roasting, are forced to open doors, or windows, or both. Matters remain in this state, till a chill is felt, when another child undertakes to mend the fire, who generally brings about pretty much the same result. And thus goes on a regular alternation of freezing and roasting, whose consequences it does not require the knowledge of a physician to foretell. A share of the blame, frequently, should fall on the prudential committee. From a false economy, or want of forethought, and, sometimes, from want of a wood-house, the fuel is green, or dry, soft wood, and the school have Hobson's choice, a great fire or none. For want of a basin of water on the stove, too, the air becomes unnaturally dry and unwholesome, especially where a large fire is constantly kept up. Lastly, although the ceiling is low, the stove-pipe is carried the whole length of the

room, over the heads of the scholars, so as almost literally to roast their brains. Who can see the bloodshot eyes of the suffering children without commiseration?

There is, generally, neither mat nor scraper. In muddy weather, quantities of dirt,—in Winter, a great deal of snow,—are necessarily carried into the schoolroom on the clothes of the children, thus giving rise to filthy, careless habits, in addition to the direct inconvenience. A basin and towel, one would think, were indispensable, where so many young children spend the day; yet such articles are always among the missing, as plainly appears from the situation their books are in. Even a pail and tin drinking-cup, are not always to be found. Lastly, however far off may be the spring or well, no pains are taken to furnish the school with water, which, consequently, has frequently to be lugged a considerable distance.

CHAPTER IV.

INTELLECTUAL EDUCATION.

HAVING thus noticed some of the most prominent defects in *Physical Education*, let us next direct our attention to the culture of the intellect, and inquire, if there be no defects there.

It may, perhaps, however, be proper to observe, that our classification of the subject into the three branches of Physical, Intellectual, and Moral, Education, though extremely convenient, is by no means perfect, or unobjectionable. So intimate are the relations of the body and mind, that, as has been before observed, no effect, of consequence, can be produced in the one, without corresponding changes appearing in the other. For instance, it is sufficiently obvious, that the deleterious effects of the alternations of heat and cold in our Winter schools, and the sufferings of children from their painful postures, are not confined to their bodies, but must also seriously affect their intellectual education. Again, a cultivated intellect

is the only sure foundation for a pure morality, which must ever be at a low ebb amidst intellectual darkness. And, on the other hand, each reflects on and illuminates the other. For as, in a clear intellect, the happiness, arising from religion and a life of virtue, may be distinctly seen and appreciated; so, in a mind, unclouded by passion, the intellect can have full play, and its pleasures are increased in a duplicate ratio. On this account, it is sometimes difficult to decide to which class certain subjects belong. That of *Discipline*, for instance, has an important bearing on each of the three classes. The same may be said of the subject of Teacher's Seminaries. And the amusements of children would be appropriate either to Moral or Physical Education. There are few classifications, however, to which similar remarks would not apply.* But it by no means follows, that they should be abandoned. It is only necessary, that the reader should be cautioned, that such classifications are merely approximations, not strictly correct. The rule we shall adhere to is, that each subject shall be arranged under that head to which it appears most closely related.

Under the head of *Intellectual Education*, the most prominent object, the one, indeed, on which all the others depend, is that of the *qualification of teachers*. Without good teachers, it is vain to look for good schools. And how can we have good teachers, unless they have encouragement, properly to prepare themselves for their arduous and responsible task. In every profession, but that of teacher, employment can be had during the whole year; or, if there be a season when business is regularly at a stand, the emoluments are proportionally greater; or, matters are so arranged, that one kind of occupation can be pursued at one season, and another for the rest of the year, as in the case of the tanner and shoemaker. In this profession, alone, except in the cities and large villages, no one can gain even a scanty subsistence. For

* The celebrated botanical classification of Linnæus has the same defect. Several of the classes have been entirely abolished by modern botanists; and, even in those remaining, several plants have been removed from one class to another.

the plan universally practised, of alternating male schools, in Winter, and female, in Summer, renders it impossible for a teacher to gain a living, unless the wages should, at the very least, be doubled. With respect to male teachers, this is comparatively of less importance; as the college vacations are purposely arranged, so as to allow the students to attend to the Winter schools. But the female teachers are thrown out of employment precisely at that season, when it is most difficult to procure any other. The unavoidable consequence, then, of this alternating system, is, that there is literally no such profession as that of a female teacher. The whole business is conducted by raw apprentices, in place of experienced workmen,—young girls, just grown up, who adopt it, not with any view of obtaining thereby a subsistence, but merely for some temporary purpose. One, for example, wishes to complete her education at a distant boarding-school; a second wants some article of dress, too costly for her parents to furnish; a third is anxious to procure some musical instrument; a fourth wishes to avoid the necessity of attending to her father's dairy. For objects such as these, school-keeping, *for a few months*, is the universal resource. And this is almost the sole dependence of the whole country, for female teachers. But what can be expected from inexperienced, young girls, who engage in teaching with views like these? Is it not rather surprising, that they effect so much as they do?

Nor is this the sole evil attending the alternating system. It does not merely exclude from the profession all who have not *other* means of maintaining themselves; but, independently of this, it is a ruinous system. For, when a teacher opens a school, she is, of course, totally ignorant of the habits, manners, and capacity, of her pupils; and they understand as little of her methods of tuition and discipline. Some time will elapse, before the school *can* work smoothly, before both parties thoroughly understand each other. Should she prove unequal to the task, her engagement will still generally be completed; for, as her incompetency, probably, is not discovered, before the expiration of half her term, most parents will rather submit

to the inconvenience a little longer, than give rise to contention in the district, by insisting on a change. It is a common saying, "Her engagement will soon be over. We shall soon have a better teacher." Vain expectation! How can we expect a better, when we have only raw, inexperienced, young girls to choose from?

But, even supposing the school to be satisfactory, a considerable part of each term must be lost in organizing, and getting to understand each other; and, before much progress can be made, the term is at an end, and the good teacher must give way to another, differing, probably, in habits, disposition, and methods of tuition, and, of course, as before, profoundly ignorant of the pupils. Would it be possible, for the best trained teachers, with the best system of tuition, to effect much good, under such an arrangement?

It appears evident, then, if we really intend our children to receive a good education, that this alternating system must be abandoned, and that *female* teachers, at least, must have permanent schools. Seminaries for teachers, alone, can never effect the object. We must be able to show, that a *maintenance can* certainly be derived from the profession, before we can expect any properly to prepare for it, and before females in middle life, however well prepared, *can* look towards it as a means of support. When we have done this, many years will not elapse, before we shall have a large body of competent teachers.

Let the office be established, and a sufficiency of incumbents will not long be wanting. A substitute for this alternating system, more economical, as well as more efficient, will be found in its proper place.

Seminaries for teachers have been established in various parts of the country, sometimes as independent schools, at others, as branches of academies or colleges; but, as yet, the beneficial results have been trifling. The proper object of these institutions, it is to be feared, has been too frequently lost sight of. The plan has commonly been, to *extend* the knowledge of the students to the *higher* branches of learning, rather than to instruct them in the *art of teaching*, more especially the *art of*

teaching the elements of school learning,—reading and arithmetic. To render a seminary for teachers really useful, the instructer must go back to numeration and the A, B, C, for it is *here* that the great deficiency lies.*

The practical part, also, is wanted in these seminaries. Theory, alone, is not sufficient. A school of children, of from five to ten years of age, attached to such institutions, is altogether indispensable. Here, also, the capacity of children of different ages must be studied, and the teachers must make themselves familiarly acquainted with the extent of their vocabularies. For want of this knowledge, the most serious yet ridiculous blunders are committed.

In a late visit to Philadelphia, I was invited to attend a lecture from a teacher of some eminence in that city, before the pupils of the public schools. At the appointed hour, I found the directors of the schools assembled, and two or three hundred children of both sexes, apparently between the ages of six and ten. The speaker, shortly after, took his place, and, to my great surprise and disappointment, delivered a well-written lecture, which lasted about three quarters of an hour, on the *extent and importance* of the *exact sciences!!* At the commencement of the discourse, the eyes of the little auditors were fastened on the speaker with an expression of eager expectation and delight. But alas! it would not do. To them, the language and subject were alike "heathen Greek;" and soon, very soon, the attempt to follow the lecturer had to be abandoned in despair. Eager expectation was succeeded by listlessness and fatigue, and a most wearisome sitting had the poor little souls to endure.

The effect of such misplaced lectures, as these, cannot fail to be highly injurious to their auditors. They blunt the intellectual perceptions, give rise to habits of dreamy wandering of mind, and are destructive of the valuable

* The French Minister of Instruction makes the same complaint. He stated officially, a few years ago, that "very few primary teachers who came from the *new Normal Schools* had learned the secret of *good methods*, and the *principles* of rational education."

faculties of observation and attention, without which, all attempts to confer a good education are futile. It may be said, that this is an extreme case; and it is to be hoped that it is so; but still, there can be no doubt, that there exists among teachers, a deplorable ignorance, (or, which amounts to the same thing, carelessness,) as to the extent of the vocabulary and capacity of their auditors: a remark, by the way, applicable to others, besides *school* teachers. This is a subject well worthy the attention of visiters and superintendents of Teacher's Seminaries.

Discipline is a subject of the first importance in schools. Without subordination and good government, no school can make any considerable progress. The principal errors, on this head, may be thus enumerated:

1. Discipline may be too lax, and the efficiency of the school destroyed by noise and confusion. Efforts are occasionally made to restrain disorder, but these are momentary only, and affairs quickly relapse into their usual state.

2. Discipline may be so strict, as, without intervals of relief at regular short intervals, may prove alike hurtful to the physical and mental powers of the pupil. The necessity for relaxation and exercise has been so fully shown, as to make it unnecessary, here, to add another word. But, although unreasonable confinement defeats its object, that is no objection to good discipline. Let it be brief in its period, and it cannot be too strict in degree.

3. A still more grievous error, and by far the most common, is a want of firmness. The rules are strict, but they are seldom carried into effect; and, when they are, relaxation immediately follows. We have been told of a teacher, who frequently relaxed discipline to such a degree, that the whole school was in an uproar. Awakened thus from his stupor, he would seize his cane, and belabor all round, till order was completely restored. This state of quiet, however, would last but a short time. The universal silence would soon be broken by a low whispering, which, remaining unnoticed, gradually increased in intensity, ending, finally, in loud talk, laughter, and jumping across the benches, which, of course, brought

about the same round of general whipping, universal silence, &c. This picture is probably highly exaggerated; but there are few, who have not seen schools managed, more or less, on the same principles.

4. Some teachers resort to the rod, even on the most trifling occasion. It is always in their hands, and seldom long unemployed. Thus, both master and scholar are brutified and debased, the law of love becomes extinct in their bosoms, and nothing can produce the slightest effect on the pupil, but pure force.

5. Others have so little command of their temper, as to indulge in habitual scolding. They speak harshly to the pupils for the merest trifle, the natural consequence of which is, that their reproofs lose all their effect. Such a course operates injuriously on the temper, both of teacher and pupil. Fretfulness and irritability pervade the whole school.

6. The moral sense of the pupil is seldom, if ever, appealed to. Every regulation is grounded on mere authority; no attempt being made to show, that nearly all the benefits, flowing from good discipline, result to the individual advantage of the pupil. So far is this occasionally lost sight of, that, sometimes, the children will learn to regard themselves and teacher as opposites to each other; as having two distinct interests; it being their master's object to lay on restrictions, and abridge their liberty, while it is their business, by all sorts of means, combination among themselves, concealment, trick, falsehood, or open disobedience, to baffle his watchfulness, and evade his severity.

7. Finally, there are some teachers, whose manners and habits are essentially vulgar. These will pinch the ears, and pull the hair of their pupils; or, still worse, beat them about the head with a book, a cane, or whatever happens to be in the hand. Such punishments as these are altogether wrong. They are dangerous; and seldom fail to excite resentment in place of contrition, the main legitimate object of punishment.

CHAPTER V.

INTELLECTUAL EDUCATION, CONTINUED.

Is there, then, nothing good in our system of public instruction? Is it, throughout, a mass of blunders? By no means. It contains much that is good, though, as has been seen, there is mingled with it much that is evil. But, as the present question is, how shall it be *purified* of its errors, and rendered as efficient as possible, it would be altogether out of place to speak, here, of its advantages, or its beauties. Let us continue, then, our searching inquiry into its errors and deficiencies, so that, when we come to prepare our improved system, we may know how to avoid every thing that may have the slightest tendency to impede our progress, or, in any manner, lessen its efficiency.

Although many of the remarks, which follow, will be applicable to the higher branches of learning, yet our chief attention will be devoted, at present, to the initiatory steps. The proper management of these is of the very first importance, and, unfortunately, this is the very part of education that has attracted least attention. The teaching of reading, spelling, and the alphabet, has been considered a task that any one might execute. We forget, that to this point can be traced nearly all our bad habits, habits which exert so prejudicial an effect on the whole future course of study, and which no after discipline can completely remove. Let us, then, in future, avoid this serious error. Let us no longer consider it as unworthy of our attention; nor turn, with an eye of indifference, from the basis of knowledge, fully convinced, that on the solidity of the foundation, depends all the beauty and usefulness of the structure.

The first branch of knowledge, to which the attention of the child is directed on entering school, is *Reading*. Hitherto, as was shown in the second chapter, his studies have been altogether delightful. His progress has been

constant and rapid ; for, as yet, he has dealt with nothing but real knowledge. No barren sounds, no unintelligible words have occurred, to embarrass and impede him. But now, very different becomes his situation. A *book* is placed in his hands, which he is told he must learn to *read*, that he may know how to become wise and good, and he is delighted with the prospect. But, alas ! how grievous the disappointment ! For months, nay, sometimes for years, his studies consist of nothing but mere *sounds*, to which it is impossible he can annex any idea whatever. His school-hours are solely occupied with A s and B s, abs, ebs, and ibs. Now, what must be the effect of all this, upon an intelligent child ? Surely, it is sufficiently evident, that his active mind cannot be exclusively employed in such tiresome drudgery. For this is nothing but a mere affair of memory, in which the reason and judgment of the child is never called into action. The natural, the unavoidable, result of such a process is, that he acquires a habit of mechanically repeating those sounds, while his mind is occupied with objects of a totally different nature. He can repeat his A, B, C, his ab, eb, ib, &c. ; and, all the while, his mind can be far distant, at play with his schoolmates, or at the family fireside. And thus, at the very outset, the child lays the foundation of the grand impediment to the easy attainment of knowledge, the impassable barrier to self-education,— the habit of mental wandering.

This plan of education is the synthetic method, which, commencing with elements, joins them to form compounds, and, again compounding those, forms them into the substances with which we are acquainted. Thus, should we be taught mineralogy according to this system, we should first have to learn the names of all the elements of which stones were composed, and then, by joining them in the proper proportions, we should form stones. But such is not the method in which we are instructed by Nature. It is, in fact, doubtful, whether we are acquainted with any elementary substance. It is true, our chemical works give us a list of some fifty or more substances, which are *called* elements ; but it is doubtful, whether any one of

them really is so. They should be considered only as *elements, according to the present state of knowledge.* Future discoveries will probably reduce the number, or totally change the whole list. But to return. Nature's mode of teaching is altogether *analytic.* She first presents us with a group, forming a perfect whole, and then instructs us how to *analyse* it, or divide it into its component parts. For instance: a child knows a *tree*, and can name it, long before he has ever heard or thought of leaves, twigs, branches, trunk, or root; a *house*, before he has become acquainted with shingles, boards, brick, stone, or lime; a *man*, before head, limbs, neck, or body. At a more advanced period of his education, he extends his knowledge by new analyses. For instance: he examines into the nature of leaves, &c., of trees; of stones and lime, which enter into the formation of a house; of flesh and bones, which form the man. Were he to wait till he knew the A, B, C of Nature, before he made himself acquainted with the objects around him, he would never know them at all. Let not the above remarks be understood as objecting to the inductive method of philosophizing. Science can have no sure foundation, save on observation, experiment, and induction. But it by no means follows, that the *knowledge of reading* must be acquired by the same method, especially by young children, whose reasoning faculties are as yet undeveloped. Besides, it will be found, that even the sciences are *taught*, chiefly, by analysis. It is in the *cultivation* of science by the philosopher, not in its *communication* by the teacher, that induction is indispensable.

Having thus pointed out the serious evil, arising from the synthetic mode of teaching reading, namely, the habit of mental wandering, or thinking of one thing while reading another; having shown, also, that Nature, in *her* teachings, follows the opposite course, that of analysis; it would appear, that all that is necessary, to induce every reasonable mind to approve of the change, is, to show its practicability in the present case. This, however, can be correctly ascertained by experiment, only. And, al-

though every teacher can make the experiment for himself, (and it is one which will require but a short time sufficiently to test,) yet it may be satisfactory to know, that every trial, hitherto made, which has come to the knowledge of the writer,—and those are by no means few in number,—have proved eminently successful. He would also state, that he has tested the plan on the younger members of his own family, with similar success. The first subject of these last experiments was a boy between four and five years old, who, in the space of three months, without previous knowledge of either letters or words, simply by receiving a lesson for about five minutes a day, the rest of his time spent in amusement, learnt to read all the lessons in Worcester's Primer in a beautiful style, and, what was still better, intelligently. He would, therefore, urge a similar trial on every parent anxious for the improvement of education, and particularly for the removal of that barrier to self-instruction, the pernicious habit above referred to. A minute description of this method of tuition will appear in its proper place. All that is necessary further to observe here is, that the chief difference between the two methods is in the *order* of the steps. Letters and syllables must be learned in the new as well as in the old method; but, by a change in the time of teaching them, they are acquired with less than half the difficulty, and without any danger of acquiring bad habits, which are so difficult to eradicate.

The reading course, which we have seen commence so inauspiciously, does not generally improve much in its progress. A great deal of time, it must be acknowledged, and much labor, are expended in the endeavor to remedy what should never have been allowed to be formed, viz., bad habits in reading. But all such efforts are commonly vain. The teacher himself rarely reads well; and, when the pupil has acquired the stiff mechanical habits which the synthetic course never fails to generate, the remedy is altogether beyond his reach. Had the child read intelligently, from the first; had none of his time been mispent in reading words without connexion, and consequently, to him, without meaning; it might have been possible,

even for a teacher who did not read well himself, to have trained up a school of good readers. For, whatever may be the opinion of those who have bestowed little attention on this subject, good reading is *the natural gift*, bad reading, entirely an artificial acquirement. For almost every child *speaks* naturally and fluently; and, when he knows the words, why should he not *read* in the same style? Simply, because, in the course of learning these words, he has acquired bad habits, habits arising entirely from the practice of attending to sound, unconnected with sense. We all know how completely man is the creature of habits, and how difficult it is to change them, when once formed. How, then, can it be expected of a child, especially when under the charge of a teacher who is ignorant of the cause of the evil, as well as of the means of cure?

But reading well aloud, though a desirable accomplishment for all, and indispensable for a public teacher, who seeks for extensive usefulness, is not so valuable to the whole community, as the power of reading silently with intelligence; and, if the latter had generally been achieved in our schools, we might, perhaps, have been content to spare the former. Unfortunately, however, this is by no means the case. The great improvements in school-books, of late years, have doubtless been productive of much benefit in this respect; and, where the method of questioning, which has been introduced into nearly all, has been thoroughly and steadily followed, the evils arising from the faulty commencement may, with much labor to both teacher and pupils, have finally been overcome. Truly happy would it have been for the community, had this generally been the case; but, unfortunately, too many teachers have not, or rather *fancy* they have not, the *time* necessary for the questioning process: as if it were possible there should not be time for the most important part of education, *reading understandingly*. Surely no other study can compete with it, as to utility. Surely every thing else should give way to this. But it is to be feared, that this neglect does *not* arise from want of time, but rather from an indisposition in the teacher properly to task

his own mind. For this is a matter that cannot be attended to mechanically, like most of the other operations of the school. It requires equal attention in teacher and pupil. Had answers been given to the questions, probably the want of time would never have been urged as a reason for their neglect. But answers would have completely nullified the process; the object being, to cause the pupil to exert his thinking powers.

There is one mode of using these questions, however, which is little better than their total neglect. The children are allowed the time, nay, even directed, to *study out* the answers. Where this mode is adopted, we shall never find intelligent reading. The answers are picked out and committed to memory; and then the reading is performed mechanically, without an effort to combine sense with sound. The sole dependence for the recitation is on the memory. It is evident, that, where this method has been adopted, the children, in after life, will not be readers; or that, at all events, their reading will not extend beyond novels or tales.

Orthography.

In the old-fashioned school, a vast deal of time is spent to very little purpose, in the acquisition of spelling; it being commonly found, that the most adroit speller in the class cannot *write* half a dozen lines without orthographical blunders. What can be the cause of so signal a failure, with such an appearance of proficiency? The subject well deserves examination.

1. The columns of the spelling-book are committed to memory; and, when the student can spell the whole orally, he takes it for granted that he is a profieient in orthography. But this by no means follows; for the number of words in the largest spelling-book does not exceed seven thousand, whereas there are upwards of eighty thousand words in the English language.

2. The words in the spelling-book are selected and arranged, chiefly with a view to teach the elements of *reading*; and it does not contain half the anomalies of orthography. Indeed, the greatest number of these anomalies

occur in the words in most common use, few of which are to be found in any spelling-book.

3. It is found, *by experience*, that spelling well orally, and writing orthographically, are really different acquirements; and that a child, very expert in the former, may be very deficient in the latter. Nothing can show, more strikingly, the folly of the *oral* method of teaching spelling, than this fact, the truth of which is now generally acknowledged. Of the generation now on the stage of life, whose education has been confined to the district school, although, at least, one third of their time was spent in drilling from the spelling-book, not one in ten can write a letter of even a few lines without blundering in orthography.

But the spelling-book is not merely used for teaching orthography. The general opinion is, that *reading* can be acquired by no other means. No one seems, for a moment, to doubt the truth of the proverb, "We must spell, before we can read." This, however, is a point well deserving serious examination. For it is here, that nearly all the bad habits that prevent intelligent reading have their origin. Let us, then, candidly inquire, whether it be really necessary "to spell, before we can read;" whether, in fact, spelling, that is, naming the letters, be of any assistance, whatever.

Commencing with the elementary *syllables*, then, ab, eb, ib, &c., let us carefully note the sounds of their constituent letters, and, joining them, observe whether they have any resemblance to the sounds of the syllables: thus a, b, will be found to make *aibee*; e, b, to make *eebee*; i, b, *eyebee*; o, b, *obee*; and u, b, *youbee*. Now, what resemblance is there between the sounds *aibee* and *ab*; *eebee* and *eb*, &c.? Evidently none.

The same discrepancy will be found to exist, on comparing the sounds of *words* with those of *their* constituents. For instance: before a child is allowed to read the word bat, he is directed to say *bee-ai-tee*; before cat, *see-ai-tee*; mat, *emm-ai-tee*; rat, *ar-ai-tee*; sat, *ess-ai-tee*; and, before he is allowed to pronounce which, he is required to say *doubleyou-aitch-eye-see-aitch!* But, lest

it should be supposed that an unfair selection of words has been made, in order to place the subject in a ludicrous point of view, let us examine a line, with which we are all familiar,—the initiatory sentence in Webster's old spelling-book,—

"No man may put off the law of God."

The manner in which we were taught to read this,—and this manner still prevails in most of the schools,—was as follows:

En-no, no, *emm-ai-en*, man, *emm-ai-wy*, may, *pee-you-tee*, put, *o-double-eff*, off, *tee-aitch-ee*, the, *ell-ai-double-you*, law, *o-eff*, of, *gee-o-dee*, God.

What can be more absurd than this? Can we wonder, that the progress of a child should be slow, when we place such unnecessary impediments as these, in his way?*

The fallacy on this subject lies within a nut-shell. It arises wholly from confounding the *names* with the *powers* of the letters. If these were similar, there might be *some* excuse for a course of this kind; though even then it would be highly objectionable, on account of the sense being destroyed by the recurrence of barren sounds between every word; but, when the names of the letters and their powers are so different, a perseverance in this system of tuition is wholly inexcusable.

* Since the above was written, I have cut the following anecdote out of a southern newspaper:

"The Woods of Lancashire are a distinguished family for character, wealth, and talent; the eldest son, John Wood, has been returned member of Parliament for Preston several times, and proved himself a steady supporter of civil and religious liberty. A laughable circumstance took place upon a trial in Lancashire, where the head of the family, Mr. Wood, senior, was examined as a witness. Upon giving his name, Ottiwell Wood, the judge, addressing the reverend person, said, 'Pray, Mr. Wood, how do you spell your name?' The old gentleman replied,—

'O double T
I double U
E double L
double U
double O D;'

Upon which the astonished lawgiver laid down his pen, saying, it was the most extraordinary name he had ever met with in his life, and, after two or three attempts, declared he was unable to record it. The court was convulsed with laughter."

The late Dr. Thornton, who, for many years, presided over the Patent-Office at Washington, perceiving the absurdity of learning to read by the repetition of sounds having no similarity to those of the words, published, in 1790, a pamphlet, entitled,' Cadmus, or a Treatise on Written Language,' in which he proposed that every letter should be named according to its *power;* and, there being more sounds than letters in the English language, introduced a sufficient number of new characters to supply the deficiency. To carry out this design, however, an entire new system of orthography became necessary, which the Doctor seriously proposed should be immediately carried into effect, not perceiving, apparently, that its adoption would render useless all the English books now in existence, and force us all to go back to school to learn to read! For this extraordinary production, the Magellanic gold medal, and the title of CADMUS were awarded to the learned doctor, by the American Philosophical Society! Had the author known, that reading could be learnt without the intervention of *any names* of letters, *he* might have saved his labor, and our wise philosophers might have elsewhere bestowed their gold.

Writing.

This important branch of education is generally abandoned to itinerant teachers, on the plea of its requiring too much of the time and attention of the teacher of the public school. This would undoubtedly be correct, if he had to rule and set all the copies, and make and mend all the pens. But, surely, this cannot be necessary. Ruled books might be procured, and printed models of calligraphy, large enough to be distinctly seen by the scholars, when hung on the walls; and it would be an excellent exercise for the larger pupils to assist, by turns, in the pen-making department.

But the child should be a good writer, before ever he takes pen in hand. As soon as he enters school, he should be provided with a slate; and he should commence written arithmetic and composition, as soon as he is able to form the necessary characters. Were this prop-

erly attended to, all would be good writers; for the chief difficulty, here, as well as in reading, lies in the breaking up of those bad habits, which ought never to have been formed.

Where writing *is* taught in the district school, the most important elements, viz., the manner of holding the pen, and the position of the body, arms, and hands, are sadly neglected. General instructions on these points are commonly given, but they are not sufficiently insisted on, and enforced. The consequence is, that a cramped, stiff manner of writing is acquired, and, if writing is much practised before a better school be resorted to, the pupil is exceedingly apt, in a very short time, to fall back into his old manner, which has become, as it were, a second nature.

Arithmetic.

The same pernicious error, which was noticed in speaking of the mode of teaching reading and writing, prevails in this science, viz., a neglect of the foundation; a hurrying of the initiatory steps. Without clear, distinct notions of numeration, no satisfactory progress can ever be made in arithmetic; and yet there are schools, where it is not taught at all; where the pupil commences with addition, and is left to acquire a knowledge of the *local* value of figures as best he may. And even in those schools where it *is* taught, the subject is passed over, too rapidly; valuable deductions, that might be drawn from it, being entirely omitted. What these are, will appear in their proper place.

The four fundamental processes, addition, subtraction, multiplication, and division, are by no means sufficiently practised. In addition, in particular, after a while, the columns ought to be long, such as the pupil will probably meet with, when he comes to practise them in stores, counting-houses, banks, and other public offices; and, instead of adding, by single figures at a time, he should be accustomed to take from two to five figures at once; for, unless he can do this with ease, he will never be an expert accountant. This mode of adding will be found,

after a little practice, to be more easy, than the formal, tedious mode of taking one at a time. A great many abbreviations ought to be pointed out in multiplication; and the Italian method of performing division, now in use over all the continent of Europe, which employs only half the number of figures used in the old-fashioned way, ought also to be adopted.

The subject of decimal fractions is treated of, separately from that of whole numbers, in all our treatises on arithmetic, and in an advanced section of the book. This arrangement is highly exceptionable; and is, probably, the principal reason why so many complain of the difficulty of understanding decimals, when, in fact, the subject is so exceedingly simple. Many persons, who have gone through two or three courses of arithmetic, have declared, that they never could thoroughly understand decimals. Their extreme simplicity confuses them; as, from their position in the work, they are led to imagine, there *must* be something, behind, which they do not see; something beneath the surface, which their efforts fail to bring to light; a notion, that confuses and mystifies the whole subject. Let us see whether any difficulty could possibly arise, if decimals were taught in connexion with whole numbers.

And, first, let us suppose that notation of whole numbers had been explained to the pupil, so that he understood that figures increased tenfold in value by being moved one place to the left, and decreased tenfold by being moved to the right; and that they were named accordingly, viz.

Millions.	H. Thous.	T. Thous.	Thous.	Hundreds.	Tens.	Units.
2,	4	3	7,	8	9	5

What difficulty could any child have, in understanding, that, when we had to place figures still further to the right, it became necessary to use a dot, (.) to show the place of units, which no longer occupied the right-hand place;

and that the same names were used for the numbers ten times, &c., less than units, as for those tenfold, &c., greater; only that we added *th* to them; the one to the left of units being called *tens*, that to the right *tenths*; the 2d to the left, hundreds, the 2d to the right, hundredths, &c.

If a number, containing decimals, were now written on the black board, say,

468,326.4589

the child would have no difficulty in naming the figures, if he were told, always to begin with units. For, proceeding to the left, as in whole numbers, he would have 6 units, 2 tens, 3 hundreds, &c.; or to the right, 6 units, 4 tenths, 5 hundredths, &c. It should also be explained, that he might either name them 4 tenths and 5 hundredths, or 45 hundredths; 4 tenths, 5 hundredths, and 8 thousandths, or 458 thousandths, &c. It should then be *shown* to him, that, by moving the dot one, two, or more places to the right or left, he would change the unit's place, and, consequently, every figure in the number would be decreased or increased, tenfold, a hundredfold, a thousandfold, &c. Finally, the reason should be given, for calling the figures, to the right of the units, *fractions*, and *decimal* fractions. All this would be perfectly intelligible to a class of children about six years old, if shown on the black board. Here would be a convenient place to show the use of the 0, commonly called cipher, but more properly *figure of place*; its sole use being, to show the *place* of the significant figures. Thus, let these four numbers be written on the board,

600 006 .600 .006

and let it be explained, that the character 0 is of no use, unless it intervenes between some significant figure and the unit's place. The class should then be called on to point out, in which of these four numbers the character was necessary, and in which it was useless.

The repetition of this lesson on the black board, for three or four days in succession, would fix the fact, thoroughly, in the mind of the class, that *whole numbers and*

decimal fractions were named on the same principle; both, in fact, being *decimals*, or numbers reckoned by *tens*.

Let us next examine, in what consists the difference between addition, subtraction, multiplication, and division, of whole numbers and of decimals, so as to ascertain, whether it is better to teach them separately, or together.

In addition of integers, figures of the same denomination are placed *over* each other, because it is most convenient, as those differing in denomination cannot be added together. For instance, if it be proposed to add 234, 156, and 798 together, we should place them thus:

234
156
798

because the figures 4, 6, and 8, being of one kind, viz., units, could be put together; and also, for the same reason 9, 5, and 3, tens, and 7, 1, and 2, hundreds. We do *not* place them thus:

234
156
798

because the 6 and the 3; and the 8, 5, and 2; and the 9 and 1, being of *different* denominations, make neither 9, nor 15, nor 10, of any denomination. The same holds true of decimals; and no intelligent child could, for a moment, be at a loss, how to place them, if he knew how to place integers, and the reason why. The process of adding is precisely the same, in both; and the tens of one denomination are considered as units in the next higher, also for the same reason; viz., because ten of one denomination make one of the other. Why, then, should a distinction be made between addition of integers and of decimals, when there is no difference?

Exactly the same remarks apply to subtraction. Let us, therefore, pass at once to multiplication, which should be elucidated by an example on the black board, like the following:

243687
842
487374
974748
1949496
205184454

Now, let us suppose that the multiplicand, instead of being a whole number, had a dot (.) between the 3 and 6 ; then, of course, we have used it as if it were 1000 times greater than it is ; consequently, our product is 1000 times too large, but can easily, as we have seen in page 42, be made 1000 times smaller, by placing a dot between the two fours, which removes the unit's place from the first to the fourth figure from the right hand. Again : suppose that the multiplier, instead of 842, should have been 8.42 ; then we shall have multiplied by a number 100 times too large ; consequently, our product, being also 100 times too large, will have to be changed once more, by removing the dot two places more to the left, between the 1 and 8. By repeating a similar process and explanation, a few times on the black board, an intelligent child, unprompted, will come to the conclusion, that there must always be *as many decimal places in the product as in both factors ;* and, *vice versa*, as many in *both factors* as in *the product.* Now, multiplication of decimals differs from that of integers in no other respect, than in having a dot to show the place of units.

In division, let it be taken for granted, that the child knows that the divisor and quotient are factors of the dividend. Or, if he does not, he may learn it, by being asked, what two numbers are the factors of the third, in the following example in division :

$$8\overline{)24}\ 3$$

Now, then, let us suppose, that it is required to divide 24 by 8. The quotient, you observe, is 3. But suppose the number had been 2.4, what would the quotient

then be? The numbers 8 and 2.4 are given, and, of course, not to be altered, then what is this 3? Recollect, you yourself found out, that there must be as many decimal places in both factors, as in the product. Now, you say, that 2.4 is the product, in which there is one decimal place; and, as there is none in the factor 8, how many must there be in the other factor? One, you say; that is, the quotient is 3 tenths.

But suppose our dividend, or product, had been .24 instead of 2.4. Here, then, the product having two decimal places, whilst there is none in the divisor-factor, of course, there must be two in the quotient-factor. But, as there is only one figure in the quotient, we must place a 0 for the other; and the question is, whether it should be put after it, or before it. If we place it after it, and then place our dot .30, we find it to be useless, because it does not change the value of the 3; therefore, it must go before,.03.

The last possible case of any difficulty is, when the divisor is a decimal, thus .8, and the product, or dividend, a whole number. The rule that we discovered, above, was, that there must be as many decimal places in the product, as in both factors. Now, there being one in the given factor, and none in the product, we must put one in the product, but without changing its value; thus, 24.0. If we now perform the division, we shall have 30 for the quotient, which is the correct answer.

It will probably appear somewhat extraordinary to a child, that when 24 is *divided* by .8, the quotient should be larger than the original number, viz. 30; and this would be a proper place to explain the *apparent* contradiction, which may be done as follows: Dividing one number by another, is finding how many times the one number is contained in the other. How many 1s are there in 24? Answer, 24. But, as .8 is less than one, of course there must be more of them, viz. 30.

It is probable, that all this may appear a little complicated in the reading; but, when shown on the blackboard, it will be readily understood by every child who can understand division of integers; especially if they

have been properly trained to habits of attention by the other exercises of the school.

Having thus shown, that, from their great similarity, decimals should be taught simultaneously with integers, or, at all events, alternately; that is, 1. Numeration of integers; 2. Numeration of decimals; 3. Addition of integers; 4. Addition of decimals, and so on; it may be proper to notice, in this connexion, another error committed in most of our treatises on Arithmetic, leading to similar results; that is, leading students to *imagine* a difficulty, where there is none in reality. The error, alluded to, consists in making separate articles of addition, subtraction, multiplication, and division, of *Federal money*, as if they, in any respect, differed from the same processes in *decimals*. There is, generally, even an article devoted to *reduction* of Federal money; as if any thing more was necessary, in reducing one sort of coin into another, than a mere change of the unit's place. Thus,

45678 mills

may be changed into cents, by placing a dot between the 7 and 8, thereby dividing it by 10, the number of mills in a cent; into dimes, by placing the dot between 6 and 7; into dollars, by placing it between 5 and 6; and into eagles, by placing it between 4 and 5; reduction, descending, carrying the dot backwards on the same principle.

There is, also, a *deficiency*, when treating of Federal money, in not explaining the etymology of the names of the coins, which, when understood, makes the subject perfectly plain. It might be done thus: a dollar is considered the unit; the meaning of *dime*, is tenth; of *cent*, hundredth; of *mill*, thousandth; consequently,

44.368 dollars

may be read, either 44 dollars, 3 tenths, (or dimes,) 6 hundredths, (or cents,) and 8 thousandths, (or mills;) or 44 dollars, 36 hundredths, (or cents,) and 8 thousandths, or (mills;) or 44 dollars, and 368 thousandths, (or mills;) or, finally, as 10 dollars make an eagle, (so called, from an eagle being the ensign, or arms of the United

States,) the 44 dollars may be considered as 4 eagles and 4 dollars.

Before leaving the subject of decimals, it may not be improper, here, to enter a protest against the novelty introduced by some authors, of using a comma instead of a dot, to indicate the place of units; that character being already appropriated to a different purpose, viz., the division of large numbers into series of threes, for the convenience of reading them readily. Thus, when the comma is used for both, it is impossible to say whether

346,789

stands for 346 thousand and 789; or 346 and 789 thousandths. Other authors, again, have, very improperly, taken the liberty of leaving out the separating commas, altogether, in large numbers; thus rendering them exceedingly difficult to be read. The eye can readily distinguish four figures, at a glance. But, when the number consists of more than four, they should always be separated, by commas, into series of threes.

But the chief impediment to the thorough acquisition of arithmetic lies in the multiplicity of *Rules*, with which our popular treatises are burdened. Perhaps it would be well, if these books consisted merely of a collection of questions, systematically arranged, so as to lead the students into a knowledge of the principles of the science, somewhat on the plan of Colburn's 'Mental Arithmetic.' Every teacher ought to be able to give a clear demonstration of the whole subject on the blackboard, on simple, philosophical principles. If this were properly done, children might be completely versed in arithmetic, by the time they reached the age of eight or nine. A specimen will be given, in another part of the treatise, of the manner of conveying this sort of practical instruction on the black board, and, at the same time, a more simple and natural classification of the whole subject will be offered. We shall attempt to supply, also, a very important omission on the part both of books and teachers, viz., the different modes in which the working-out of questions may be shortened by cancelling, division, &c. By such ab-

breviations, not only a vast amount of time and labor is saved, but several of the most important principles of arithmetic are brought out and elucidated.

The last error to be noticed, on the subject of written arithmetic, is the prevailing custom of furnishing ready-made tables of addition and multiplication for the student. This is, probably, one of the most injurious species of labor-saving machinery. The habit of relying on ready-formed tables, instead of forming them for one's self, may be classed with that of depending on mechanical rules, and the practice of getting the teacher to work out the difficult problems, instead of simplifying the subject by a few leading questions. These are perversions, which tend to convert a science, that is probably one of the best adapted to lead the mind into trains of reasoning, and habits of patient investigation, into a means of leading youth into implicit, blind reliance on the dicta of books and teachers: an admirable method of preparing the community to become the ready dupes of demagogues, quacks, and fanatics.

Mental Arithmetic.

This branch of the science of numbers, properly taught, has a tendency to produce the most valuable results. Colburn's little work, on this subject, is by far the best that has yet appeared. It is nothing but a mere collection of questions, but so admirably arranged, that the student can proceed onward, step by step, from the simple question of how many fingers are on the hand, to the most complicated and abstruse problems, almost without the aid of a teacher, and all the while forming his own rules. But the acquisition of arithmetic is one of the smallest advantages that may be derived from the proper use of this work. If the child is not allowed to study it; if he is never allowed to see the questions at all; and if they are never read to him till his class is called upon to recite; and if he is regularly required to state the manner in which he worked them, and his reasons for the adoption of such a course, he will thus acquire habits of *strict attention* to the person by whom he is addressed; of *patient investi-*

gation, and of *examining and noting the operations of his own mind*; habits of infinitely more value, than the mere acquisition of science; habits, in fact, which will give him the mastery over all the sciences, at will.

But, by the mode in which this book is generally used in schools, all these important advantages are lost. The pupil is allowed to study out the questions at his leisure; sometimes, even, to work them out on the slate, and then, committing the answers to memory, or annexing them to the questions, he is merely expected to repeat them, when called upon, at his recitation. This unfortunate result has generally arisen, no doubt, either from the incapacity or slothful habits of the teacher. For, of course, it is necessary, in order to secure all the advantages of this study, that the teacher should, himself, perform the operation simultaneously with his pupil.

The most serious error, however, into which teachers have fallen on this subject, has arisen from considering mental, as a *substitute* for written arithmetic, in place of an *introduction* and an *assistant* to the latter. A moment's reflection, one would think, would show that it could never be depended on, for any but petty business-transactions. Long accounts, and all questions in which many large numbers are involved, are totally unsuited to mental arithmetic. A knowledge of written arithmetic, consequently, is an indispensable requisite of a good education.

Geography, History, Natural History, Grammar, &c.

The higher branches of education are taught in the schools, in a much more satisfactory manner, than the fundamental studies which have been noticed; and, in some degree, serve to rub off the rust, acquired in pursuing the initiatory steps. But there is one error, which runs more or less through the whole system; viz., the charging the memory with words instead of ideas. In all studies, there is too much of what is called, *committing to memory*. This is an error, however, which, it is believed, will disappear, as soon as a more rational plan is adopted, of teaching the fundamental branches. When

the mind shall be developed and disciplined, by a proper mode of acquiring reading and arithmetic, the folly of attaching value to the mere repetition of words will be generally seen and acknowledged.

CHAPTER VI.

MORAL EDUCATION.

ALAS! what a blank is here! How little, how very little, has even been attempted, towards developing and giving a proper direction to the social affections and moral feelings of early youth! And yet, when we examine with care the little that *has* been done; when we see with what crude notions, nay, even with what false principles, the instructers of early youth have come to their important task; we feel inclined to ask, whether it would not have been better, that nothing had been done; that the whole subject had been left unoccupied. For, with what sordid, mercenary motives, have young children been incited to the love and practice of virtue! One is praised for goodness, and rewarded with a *doll;* another, with "books with prints in them;" a third, with *sweetmeats.* In one school-book, we are told that "the boys thought how good James and George were, to give them part of their cakes, and said, they would share with them, when they had good things, too. *Were not James and George good boys?*" In another, there is an account of a *good boy* assisting a dog, a half-starved horse, and a blind man, in the morning, who, in the evening, coöperate to rescue him from thieves. In a third, where a story is related of a *dishonest* boy punished by a *broken leg*, and *honest* Harry rewarded with a *hat-full of apples*, it is wound up by the statement, that "Harry carried the fruit to his mother, and told her, he was *now* convinced that children were always happiest when they did right." Now, what kind of moral perceptions can be expected from youth, who, in their tender years, have been fed merely by such

trash as this. Nothing but tangible rewards and punishments! Good for good, evil for evil! Is this the spirit of the Gospel of Christ? "Do not even the publicans the same?" Is it any thing more than one of the innumerable forms of selfishness? the mere spirit of trade? a mere barter of benevolence? Every one, at all conversant with the state of infancy, must be aware, that nothing of the *mercantile* spirit is to be found there. Children are naturally *selfish*; that is, they think only of themselves, or, rather, *know little* of others; but what they do give, they give freely, without price. Whilst endeavoring to correct this selfish spirit, then, let us be careful not to instil a worse. Let us not dig up the soil, and plant it with thistles. Much higher motives than these can be appreciated by very young children. They can as readily perceive the beauty and dignity of goodness as we can. They need not the stimulus, either of praise or rewards, to excite them to well-doing. Show them a noble example, and they will instantly follow it. Shall we not, then, try to prolong, a little, this beautiful state of artlessness; to make a few better impressions, before we initiate them into the world of traffic? Is there not too much of the *mercantile* spirit in the community? Is it not disgusting, to see a child calculating to a day the period of his majority, when his parents shall have no longer a claim on his services? To see parents and children, who dwell in one house, eating at different tables? brothers and sisters, bargaining closely, like utter strangers? husband and wife, with separate purses?

Again, when dissuasives from vice are wanted, with what trickery and deceit are children assailed! We have seen, above, the *dishonest* boy punished with a *broken leg*, as if the good and bad were not alike subject to such casualties; and, in the same spirit, one of our most popular spelling-books commences the reading lessons with the following sentence:

"A dog met a *bad* boy, and *bit* him."

This is the genuine old-fashioned style of frightening into obedience; a practice still so prevalent, that it is

not uncommon to hear a mere child using similar threats to his juniors: so readily do they copy our bad examples. The trick may answer a momentary purpose; but what sort of impression must the child receive, when he finds, as assuredly, sooner or later, he must, that he has been deceived by his parents or moral instructers? A powerful modern writer says, that "a father is the young child's deity." Alas! that his implicit confidence should so soon be rooted out!

We have, in our country, talents of the very first order. Could they be devoted to a nobler purpose, than to rescue youth from such moral bunglers as these? Could that be considered degrading employment, to genius of the highest rank, which would tend to elevate the whole community in the scale of virtue? Sometimes, it is true, we are told that the Bible is all-sufficient for this purpose. But surely this is a mistaken view of things. God, in his wisdom, has provided materials, in abundance, for the *food* of man; but nowhere, in the temperate climes, are spontaneous products superior to crabs and sloes. In vain may the sun shine, and the dews of heaven descend, on the most fertile soil. Unless the skill and industry of the husbandman be exerted, it will bring forth little else than thorns and thistles. In like manner has the bounty of Providence supplied all sorts of materials for the *clothing* of man; but in no case whatever are they fitted for use. It is the same in the moral world. In his various revelations, God has furnished all the *elements* of virtue; but man is required to exert his intelligence, ere the precious fruits of goodness can be formed and ripened. And, in fact, it is only theoretically, that this is denied. Practically, it is admitted by all. Else, why so vast an apparatus of colleges and theological seminaries; of churches and preachers; of commentaries, tracts, and sermons? No! the Bible is not, of itself, sufficient. All the great truths are here; but its moral lessons require to be expanded and applied. They must be brought to bear on all the various situations in which it is possible for man to be placed; and, above all, its language must be accommodated to the opening faculties, the unripened

intellect, of early youth. O! how sweet, how blessed, will be the memory of the pioneer, who shall first sow the *genuine* seeds of duty and happiness in the virgin soil of infancy; who, in stories, written in a style equally pure and simple, shall exhibit, by suitable *examples*, entirely devoid of authoritative dogmas, the beauty of Virtue, the deformity of Vice; shall awaken in the youthful soul the delights of the social affections; inspire it with gratitude and piety; with frankness, generosity, and forbearance under injuries; with resignation, humility, and fortitude; and, above all, with a sacred regard for Truth! It is through SCHOOL-BOOKS and SCHOOLS only, that a genuine REFORMATION can bless the world. The seeds sown from the pulpit fall among thorns; "and are choked with cares, and riches, and pleasures, of this life, and bring no fruit to perfection."*

These remarks, it will readily be perceived, apply only in the case of early youth. There is no lack of moral treatises, or moral lectures, for manhood, or even for the more advanced stages of youth. But these come too late. The passions, and the sordid animal appetites and propensities, of our nature, having remained unchecked since infancy, have thus been yearly adding strength to strength; and the conscience, led astray by these powerful emotions, and obscured and darkened, from want of exercise, either fails to respond at all, or answers wrong, when appealed to. No! if we would have our youth habituated to attend to the Divine Light within, what Bacon beautifully calls the "sparkle of the purity of man's first estate," it must be developed and cultivated in *infancy*. The Christian poet, Cowper, observes, that,

> "In *early days* the conscience has, in most,
> A quickness which, in *later* life, is *lost*."—
> *Tirocinium*, l. 109, 110.

And the best of all authority assures us, that "of *such* is the kingdom of Heaven." How important, then, that this state of comparative innocence should be preserved; that conscience, while in its purity, should be awakened and

* Luke viii. 14.

cherished; and that our youth, from their most tender age, should be habituated to consult it on every occasion; and not only to consult it, but to listen to its monitions; for, if we summon conscience, and neglect her dictates, we only harden ourselves in guilt. The bane of education, in *all* its branches, is the absurd practice of neglecting the first steps, of allowing bad habits to spring up, and become a part of our nature, in the illusory hope of rooting them out, in after life. Alas, it is then, indeed, a labor dire and weary wo. In some instances, doubtless, it may be effected; but, in all cases, the eradication is imperfect; and, in most, the attempt is a total failure. It is both shorter and easier, to proceed from ignorance to knowledge, than from error. They, who are in the last, must *unlearn*, before they can learn to any good purpose; and the first part of this double task is, by far, the most irksome and difficult, for which reason, it is seldom undertaken.

CHAPTER VII.

RECAPITULATION.

HITHERTO, gentle reader, our journey together has been almost wholly over rough acclivities, with but little to relieve the weariness of the ascent. Having now, however, reached the top, before we descend into the more pleasing and more flowery vale before us, it may, perhaps, be profitable, to take a retrospective view of our past labors, and inquire, what are their results. May we not conclude, then,

I. That the SCHOOL is not the only place, where our youth receive instruction; but that, indirectly, they derive much of their education from

1. Observation and Experience.
2. The Conversation and Example of their parents and companions.

3. Public Opinion, or Tradition.
4. Public Worship.
5. The Town Meeting.
6. The District School Meeting.
7. The Judicial Establishments.

II. That our *Direct Instruction*, or School Education, is weak, trifling, and of small extent, compared with our *Indirect Instruction*.

III. That, in Physical Education, Nature is our great instructress, and that our duty is chiefly negative; namely, to deviate as little as possible from the course she indicates.

IV. That the unnecessary confinement, to which the child is subjected in early life, is alike prejudicial to his physical powers, and to the developement of his intellectual faculties.

V. That the location and internal arrangement of most of our schoolhouses are highly objectionable, tending to enervate the mind, as well as to weaken the bodies of our youth.

VI. That the imperfect qualification of our teachers arises, in a great measure, from the fact, that, owing to the plan of alternating male and female teachers in the Winter and Summer schools, it is impossible for either to gain a support from the profession.

VII. That, in order to induce females properly to qualify themselves, permanent situations must be provided for them, in the primary schools.

VIII. That the waste of time, by the pupils, and other inconveniences, arising from the perpetual change of teachers, occasion a serious loss to the community.

IX. That Seminaries for Teachers too often mistake the object of their institution, by endeavoring to extend the knowledge of their students to the higher branches of learning, instead of imparting to them the *art of teaching*.

X. That the Discipline of schools is defective, either by being too lax and wavering, or, when sufficiently strict, by not allowing frequent intermissions, at stated periods; also, by the vulgar practices of the teacher, and by too frequent recurrence to scolding and brute force.

XI. That the initiatory branches of education are, by far, the most important; and yet, that they are those which are generally intrusted to the most incompetent instructers.

XII. That the pernicious habit of mental wandering, or reading one thing while thinking of another, naturally arises from the *synthetic* mode of teaching reading.

XIII. That, by the *analytic* method, this pernicious habit is avoided, while, at the same time, the progress of the pupil is much more rapid.

XIV. That experience shows, that the oral method of teaching orthography is deceptive, and generally fails to produce good spellers.

XV. That the mode of teaching reading, by means of spelling, is absurd, and highly pernicious.

XVI. That writing, as taught in our district schools, generally eventuates in a stiff, cramp hand.

XVII. That the fundamental processes of arithmetic are seldom properly taught, or sufficiently practised; that the general arrangement of the subject is defective; and that the different modes of abbreviation are not pointed out.

XVIII. That the important advantages, which might be derived from the practice of mental arithmetic, are generally lost, by the mode in which it is studied.

XIX. That the practice of *committing words to memory*, instead of acquiring ideas, is still too general in the study of the higher branches of learning.

XX. That the subject of MORAL EDUCATION is sadly neglected in schools, and the little, that is attempted, generally founded on false principles.

XXI. That it is through school-books and schools, only, that a genuine REFORMATION can be effected in the community.

THE TEACHER'S MANUAL.

PART II.

"Theoriarum vires, arcta et quasi se mutuo sustinente partium adaptione, quâ, quasi in orbem cohærent, firmantur."* — *Bacon.*

"I shall not detain you longer in the demonstration of what we should *not* do; but straight conduct you to a hill-side, where I will point ye out the right path of a virtuous and noble education, laborious, indeed, at the first ascent, but also so smooth, so green, so full of goodly prospect and melodious sounds, that the harp of Orpheus was not more charming." — *Milton.*

CHAPTER I.

INTRODUCTORY.

HAVING now accomplished the unpleasant and invidious, but not less important and necessary, duty, of pointing out the principal errors and deficiencies of the present system of Popular Education, the more pleasing task remains, of constructing a new and more perfect system of instruction. In the performance of this duty, although we shall consider ourselves completely unrestricted in the choice of materials, yet shall we sedulously endeavor to guard against the error of seeking after mere novelties. Whatever, therefore, is truly valuable in the old system shall be retained; but nothing, whether new or old, shall

* The strength of a theory depends greatly on the mutual adaptation and adhesion of its parts; like an arch, the several portions of which reciprocally strengthen and support each other.

be adopted, without a thorough examination into its soundness and fitness.

In this second part, we shall endeavor to preserve the same arrangement of subjects, so far as it shall be convenient and practicable, divided, as before, into the three heads of Physical, Intellectual, and Moral, Education.

Under the head of *Physical Education*, will be noticed the division of towns into school districts; the gradation of schools; the size, situation, and ornamenting, of school lots; the construction and internal arrangement of school-houses, with plans for warming and ventilating them; school terms and school hours; and discipline; all of which will be found to have an important bearing on the health.

In treating of *Intellectual Education*, teachers' seminaries and the qualifications of teachers will form an important item; and the best modes of conducting studies, especially in the primary schools, will receive a full discussion.

In the uncultivated region of *Moral Education* for schools, where

"The world is all before us, where to choose,"

while we shall use our best endeavors, so to direct our steps, as to execute all that our weak efforts are capable of accomplishing, we shall be equally watchful to avoid even the slightest appearance of evil. As adventurous pioneers in this great wilderness, we shall try to select a fertile spot, such as shall not only produce abundantly for present use, but which, at the same time, may form a not altogether useless corner, at a future period, when the whole region shall blossom as a garden.

CHAPTER II.

PHYSICAL EDUCATION.

Formation of Districts.

THE proper division of a town into districts is a matter of considerable importance, particularly in thinly settled neighborhoods, where a great temptation exists to multiply them too much, in order to have the schoolhouse sufficiently near to accommodate the younger branches of families. In such cases, it should never be forgotten, that it is infinitely better to have a *good* school, which, with the exception of vacations for a few weeks in Spring and Autumn, shall be kept *permanently*, though at a considerable distance, than to have a *poor* school close at hand, and kept but for six or eight months in the year. Even should it *be* too far off for children under six years of age, all their time will not be lost, though it be spent in nothing but harmless amusement. They will acquire strength of body, and their knowledge and love of Nature will be all the while constantly on the increase. If, in addition, the mother, or an elder sister or brother, should spend only ten or fifteen minutes a day, in teaching them to read in a judicious manner, and showing them how to hold a pencil, so that they may scribble on their slates at pleasure, such children will probably overtake most of those who have attended school from the most tender age.*

Care should be taken, however, not to run into the

* Dr. Humphrey, President of Amherst College, in his 'Thoughts on Education,' observes, "I am strongly impressed with the belief, that, if the experiment could be fairly tried upon a great scale, those infants that are rightly managed in other respects, but who do not know a letter, till they are five years old, would ultimately surpass, both in strength and acquirements, such as begin their studies two or three years earlier. I have no doubt, that ten of the latter are seriously injured, both in body and mind, by taxing the brain too early, where one of the former suffers in his education, by not commencing early enough."

opposite extreme. One mile should be the greatest distance from the *primary* schoolhouse to the furthest house in the district. Such a district might probably be about one and a half miles square, containing about two and one fourth square miles. A town of six miles square would, therefore, contain sixteen. If a district of this size could not support a good *permanent* female school, with the assistance it received from the public funds, a larger amount should be furnished by the town, or, rather, by the State.

The manner, in which school-funds are distributed in New England, under the appearance of the most rigid equality, is, in reality, exceedingly disproportionate and unjust. Such distributions are generally made *per capita*; that is, in proportion to the number of scholars in a district. But, surely, the intention of the Legislature must have been, to put all, as far as practicable, on an equal footing, as to the *means of education*, and not the granting an equal *sum of money* to each child. And yet it requires but a moment's consideration to perceive, that one dollar, in one situation, will go as far as five, in another. In practice, then, it would appear, that the object of the Legislature, in dealing equally with all, is completely frustrated.

Nor is this all. Not only are great numbers of the poorer classes injured, in their future prospects, by this partiality, but the whole community suffer by the procedure. A tax for the support of education can only be justified on the principle, that it is essential to the safety of the State, that all should be enlightened. What, then, shall we think of the government of an intelligent commonwealth, like Massachusetts for instance, which shall raise a tax of nearly half a million of dollars, annually, for her schools, and yet allow it to be so partially distributed, that in some portions of the State education shall be thorough, in others almost wholly inefficient? The same remark holds good of every State, in which this mode of distributing school money prevails. But are not the inhabitants of Boston, Portsmouth, Hartford, Burlington, and of every rich and populous town, inter-

ested in having the benefits of education extended to the poorer, and hitherto neglected, corners of our land? Shall such spots be suffered to become pestiferous little nests for rearing dupes for demagogues and impostors, nurseries for the inmates of penitentiaries and poor-houses? Surely not. Whatever our Legislatures can do, at all, they can and ought to do, properly and effectually. A very slight addition to the tax for education would entirely remove this serious difficulty. In most States, in fact, it might probably be effected without any additional tax, by a slight change in the mode of distribution.*

In the more thickly-settled parts of the country, and in the villages, it may not be necessary to have the districts quite so large as in the more sparsely-settled spots. But even there, it will be found unprofitable to have them small. For, if the schoolhouse be properly constructed, and of sufficient size, great advantages would arise from having a large number of scholars together. Let us suppose, for instance, that there are two hundred children under twelve years of age, in a district not too large for conveniently collecting them into one building. This number would be enough for what would be considered four large schools; and, in fact, four teachers, in separate establishments, could scarcely do them justice. But, so great are the advantages of a division of labor, that the same number of teachers in one school of two hundred would be abundantly competent to their task, and the school would be much more efficient, than one with a single teacher, even with not more than thirty scholars. For such a school as has been mentioned, besides a room large enough to hold all, with convenience, there should be three recitation rooms. In one of those, a teacher should be exclusively occupied with the younger reading classes; in the next room, another teacher, with the older reading classes; in the third, should be the recitations of geography and arithmetic, with illustrations on

* The Legislature of Vermont have, in their present session, (October, 1839,) made a slight approximation to equality, by directing that one fourth of the public money for schools should be distributed equally among the districts, and the remaining three fourths, *per capita*.

the blackboard. The fourth teacher should attend to the discipline and general arrangement of the school, and overlook the writing exercises and arithmetical operations on the slate, in the large hall. That such an arrangement would be very much superior to those in our common schools, is evident, from the fact, that each teacher would be almost exclusively confined to one branch, and that, the recitation rooms being separate, the studies could be pursued without the slightest hindrance.

Of the arrangements necessary for the scholars of twelve years of age, and over, we shall presently speak.

Gradation of Schools.

The evils, arising from the present system of alternating male and female schools, have already been noticed, [Part I, Chap. iv.] The following plan for a gradation of schools will, it is believed, not only obviate these evils, but place our whole system of education on a more efficient footing.

Let a female school be kept in every district, throughout the year, with the exception of two short vacations; the teachers being engaged, *not* for any specific time, but as long as both parties remain suited. Let the studies, in such schools, be confined to reading, writing, composition, (which, of course, includes orthography, and a certain extent of grammar, and the structure of sentences,) arithmetic, and geography. Let these be considered as the primary schools, through which every child must, of necessity, pass, to prepare himself for a different series of studies, in a higher grade of schools, to be called Central, or High Schools. Of these, let there be one, or, in large, populous towns, two, in each town. Generally, these central schools would only be kept during the Winter; though some of the larger villages might, perhaps, afford them employment throughout the year. In such cases, additional assistants would be wanted during the Winter season, when the larger children of the farmers, &c., would generally attend. To prevent the younger children, who lived convenient to those central schools, from pressing in, too soon, and, at the same time,

to avoid the invidiousness of preliminary examinations, it would be well to adopt, as an undeviating rule, that no instruction should be given in the branches taught in the primary schools, excepting in composition, which should be attended to, on a more extended scale, one afternoon in the week.

The central schools should be considered as *town* schools, and, of course, should be partially supported by a proportion of the public funds from all the districts. It would not be proper, however, that these contributions should be in an equal ratio. They should be adjusted on some principle favoring the districts, in proportion to their distance from the schoolhouse. It would scarcely be practicable to suggest a rule, that would apply, fairly, in all cases; but something like the following might, probably, be satisfactory in the greater number:—Let such neighborhoods, (within certain limits,) as would agree to furnish the schoolhouse, or make the most liberal offer towards that item of expense, have the right of fixing the site, and also have the use of the building for purposes not inconsistent with its character, when not occupied as a school. With respect to the other expenses, that part of the teachers' wages, not paid by the public money, might be raised by an equal tax on the scholars; while, in addition, the expense of board might be defrayed by those living within one mile of the schoolhouse, and of the fuel by those within from one to two miles. The more distant families would thus be compensated for the inconvenience of their remoteness, by their exemption from these expenses. Besides, as the children would not probably be prepared for the central school, till about the age of twelve, the increased distance would then be a matter of but trifling moment.

Attached to the central schoolhouse, there should always be a long shed, for the accommodation of the teams of the distant families, who would probably make some arrangement to furnish such a convenience, by turns; while those, who were unprovided, might pay a reasonable portion of its expense, by their labor. The schoolhouse itself should be on a scale sufficiently large, to admit of

a few lodging-rooms for those female pupils, whose health might be too delicate to go, daily, to their distant homes. Here, with trifling inconvenience, and without any additional expense, save the transport of their provision and a little necessary furniture from home, they might board themselves. But the boys should, in all cases, return home; as it is more important, that they should be under the eye of their parents, and as they, generally, have more or less morning and evening duties to perform.

The distance from the furthest corner of the town would probably, in no case, exceed four or five miles. Should there be any pupils to whom it might be inconvenient to furnish means of conveyance, *daily*, it might easily be arranged, that they should have longer tasks, and attend the school for recitation, only two or three times a week. And, if their leisure time was properly spent at home, it is highly probable, that improvement would be more rapid, under such an arrangement, than where the school was attended constantly. For it would certainly have the tendency, in most cases, to induce habits of patient perseverance, and confidence in one's own exertions,—habits of much more importance than the mere attainment of science. In all schools, there is too much leaning on the teacher, too little patient research and self-dependence.

As the languages and higher branches of mathematics should be taught in the central schools, it would be necessary to have a gentleman of liberal education at its head; but, probably, so great has been the improvement of female education within a few years, there would be little difficulty of procuring a sufficiency of well-qualified assistants of that sex.

The advantages arising from this plan of graduating the schools are fourfold: 1. Its tendency to produce a body of *capable, experienced, female teachers.* 2. Its efficiency. 3. Its economy. 4. Its equality.

1. *Its tendency to produce a body of capable, experienced, female teachers.* In the fourth chapter of the preceding part of this work, it was shown, that, in the country parts of New England, owing to the prevailing system of alternating male and female schools, there was,

literally, no such profession as that of teacher. The central school system, if generally adopted, would soon remove this evil, so far as female teachers are concerned. In every district, we should have a permanent female school; and, when it is considered what immense numbers of young women flock to the manufacturing establishments, there cannot be a reasonable doubt, that these much more eligible and independent situations would soon be filled by well-qualified incumbents. Only create a demand for teachers, and a steady supply will soon be obtained. As to the central schools, these situations may be conveniently filled from the senior classes of the colleges, whose vacations are generally arranged with a view to Winter teaching.

2. *Its efficiency.* Surely, no argument can be necessary to demonstrate the superior efficiency of this plan. It is apparent, at the first glance, that the younger classes will be highly benefited by a permanent school, conducted by a teacher educated with a view to that employment, and who will, consequently, devote to it her whole attention; a teacher, who will have an opportunity of becoming acquainted with the various dispositions and characters of her pupils,—a knowledge so necessary to successful tuition,—and time to apply that knowledge to their benefit; advantages, which temporary teachers can never possess. The younger classes will also be relieved from the intrusion of the elder classes in Winter, a circumstance which will, at least, double the efficiency of the school for that season of the year. But its main efficiency will arise from its *permanency*. During the first weeks of a school, children cannot study with the same facility, nor are they able to make the same progress, as afterwards. Even men cannot rally and apply their whole mental forces, on the first day of commencing an unaccustomed work. Hence, a change of teachers is, of *itself*, a great misfortune. Teacher and pupils must become acquainted with one another; they must understand one another's powers and ways, before the school can advance. Besides, females are by far the best teachers of young children. They have more quick apprehension

of character, more enduring patience, more expansive benevolence, higher purity, more delicate taste, and more elevated moral feelings, than men; and, above all, the young more willingly and readily receive instruction from them, because the severity of discipline is relieved by their tenderness and affection. In the central school, the older children will find well-qualified teachers, whose attention will not be distracted by such a multiplicity of studies, as now occupy their attention in the Winter schools, and will, therefore, be able to devote their undivided attention to the higher branches. The pupils, too, can pursue their studies with much greater ease and effect, when uninterrupted by the constantly-recurring recitations of beginners.

3. *Its economy.* On this head, it is only necessary to remark, that, by the employment, in Winter, of only one or two men, with a sufficient number of female teachers, instead of fifteen or twenty men, as at present, such a saving will be effected, as will enable the districts to keep their primary schools ten months in the year, and pay two teachers in the central school, without *any increase* of the expense of tuition.

Let us suppose, for instance, that a town was divided into sixteen districts, in each of which, a female school was kept for four months in Summer, and a man's school three months in Winter; and that the wages paid, were six dollars for the female, and fifteen dollars for the male, school. This, for the sixteen districts, would be,

64 months, female school, at	$6 . .	$384
48 " male "	15 . .	720
		$1104

This amount, applied to the central school system, would give, in every district, say ten months school:

160 months, at	$6	$960
4 months, central school, at	$25 .	100
4 " assistant to do. .	11 .	44
		$1104

Thus, the younger children would have ten months' in

place of seven months' schooling, and the elder pupils a first rate school, *by themselves*, for four months, in place of a wretched, crowded one, for three months.

4. *Its equality.* At present, the advantages of education are distributed in a manner exceedingly unequal. By the proposed plan, with the exception of college graduates, we should approach, as nearly as possible, to a state of equality; and, what is still better, all would be *well* educated, and at a rate so low, as could hardly be felt by the poorest member of the community.*

Such are a few of the advantages of the *Central School System.* When they are compared with the only disadvantage, which, it is believed, can attend it, namely, the increased distance of some of the older scholars, how completely does the latter sink into insignificance!

Ye genuine philanthropists and true patriots! your assistance is invoked, towards carrying into operation this most important measure, which only waits for a commencement, to spread, rapidly, through our country. If, by your advice, influence, and example, you can hasten the formation of a *body of capable and experienced female teachers*, you will do more for your country, than if you were to be the means of discovering the richest mines of gold and silver within her territory; you will confer greater benefits on your countrymen, than by pointing out new sources of trade, more easy and rapid means of intercommunication, or new principles of practical science. Such a body, weak as it may appear, will operate as an impregnable wall of defence, alike against external and internal foes. It will be the surest stay for our invaluable political institutions; the radical cure for

* The above plan of a graduation of the public schools, was first publicly proposed by me, in the Spring of 1830, and endeavors made to obtain the legislative sanction, in the Autumn of that year. The novelty of its provisions, however, by exciting the fears of some, and the prejudices of others, caused its failure in that, and in two other, sessions. It has steadily continued to gain friends, however, and will probably soon be authorized by law. Meanwhile, the Legislature of Massachusetts have taken up the subject, and deprived us of the honor of its first introduction, by sanctioning it in that intelligent and powerful State, where, it is to be hoped, its provisions will soon have a fair trial.

intemperance and vice; an effectual remedy for political and religious fanaticism; and a certain means of putting a final stop to all sorts of quackery and imposture. May not your countenance and aid be relied on, in this holy cause? Do not suffer the coldness, with which your first efforts will be met by the community, to discourage you. There is a natural propensity in man, to cling to established institutions, and reverence hereditary usages, which was wisely ordained by the Creator, to give stability to the forms of society. But this disposition, although, perhaps, it thus contributes more to the good than to the evil of the race, should not be blindly yielded to, by the more intelligent. For it also serves to perpetuate every species of error, and to retard the progress of society towards the highest and best condition of which the nature of man is capable. It has been well remarked, "that it is an encouraging observation, that no good measure was ever proposed, which, *if duly pursued*, failed to prevail in the end." We have a strong proof of this, in the efforts made to suppress the slave-trade and extirpate slavery, in the British Parliament. Mr. Wilberforce agitated this subject for twenty or thirty years, before he was able to carry his point. But he had the exquisite happiness, before his death, to see slavery completely abolished, and that dark stain wiped away from the isles of the West. May this striking example of the effects of perseverance not be lost upon us; may it encourage us to obedience to the Bible precept, "Let us not be *weary* in well-doing."*

In our endeavors to do good, however, let us be particularly careful not to injure the cause, by the hasty adoption of half-way measures. The grand object should be, to engage the *town*, not a few individual *districts*, in the measure. If the community, in which we reside, will not, at once, accede to the plan, it would be well, carefully to consider, whether it would not be preferable to postpone operations, until public sentiment can be rectified on the subject, rather than precipitately engage in

* Gal. vi. 9.

measures, which, although good in themselves, and, perhaps, the best that can be done for the present, may yet prove an obstacle to future *complete* success. *Festina lentè:* we frequently get along fastest, by moving slowly. Let us weigh the matter well. If we gather together the more intelligent and richer districts only, the measure fails where it is most needed; for it is much to be feared, that the others will thus be permanently excluded, and, being too much scattered to form a union among themselves, our system of permanent schools will be on too small a scale, to exert much beneficial influence on the *whole people*. We shall have *a part* of our youth well educated; but, all around us, will be scattered those pestiferous nests of ignorance and vice, already alluded to. No! In commencing the glorious work of reforming the community through the medium of the schools, let us determine to take high grounds. O! let us not allow *selfish* motives to urge us either to precipitancy, or to the adoption of contracted views. Let us wait with patience, till our little community is *fully* prepared; at the same time taking every legitimate course to hasten this preparation. Wherever two or three are met together, let the subject be canvassed; at the town and district meeting, as well as in private society; let it be discussed in public lectures; and, above all, let that powerful engine, the press, be wielded in its behalf. Let our flag have this motto, and let it be nailed to the mast: *A permanent school in every district for the smaller scholars; one [or two] good central schools for the older classes.**

* In New England, towns generally contain about thirty-six square miles; and therefore should, and probably do, have from twelve to twenty schoolhouses. But it appears from the abstract of the Massachusetts School Returns, for 1837, that the average number in that State does not exceed ten schools in a town, and that a considerable number of towns contain from two to seven districts only. In these small towns, of course, some modification of the central school system would be necessary, before *all* its advantages could be realized. In some situations, there might be a union of two towns, in respect to the central school. This plan, however, could not, perhaps, be adopted in all cases; as it is probable, that some natural impediment has given rise to those minute subdivisions of territory. In the worst possible case, however, where a school for the larger children could not be support-

CHAPTER III.

PHYSICAL EDUCATION, CONTINUED.

School Lots.

It would be unreasonable to expect, that all the following suggestions on the subject of school lots and schoolhouses, however much they may be approved, will be universally, or even generally, carried into effect. In many instances, poverty will be pleaded as the excuse. But this cannot be an available plea. For, where the district is poor, the land is generally of trifling value; and, as to the slight difference of expense between a good and a wretched schoolhouse, it certainly is not to be put in competition with the *health* of the children. Leaving entirely out of view the intellectual and moral evils connected with the inferior building, true economy would dictate the erection of a good structure, sufficiently spacious for the evolutions of the school and the health of its inmates.

Our duty, however, is in no wise altered by this circumstance. If only a *few* school lots be arranged, a *few* schoolhouses be constructed, in a better taste than formerly, our design will be, in a great measure, accomplished. For the constant tendency of mankind is towards improvement. We never go backward. And it requires only a few good models, scattered through the country, to bring about, in a very short time, a manifest change for the better, every where.

School lots should always be in a pleasant and health-

ed, independently of the primary schools, great benefit would still result from the substitution of a *permanent female school*, instead of the alternating system. There can be no doubt, that, under a competent permanent instructress, the pupils would be better educated before they arrived at the age of twelve, than they now are altogether. If there be any districts really unable to support a female school ten months in the year, they ought to receive the necessary assistance from the State treasury. Suicidal, indeed, would be the policy that would refuse it.

ful situation, and never less than half an acre in extent. The public road is, surely, a very improper, in fact, dangerous, place, for large groups of children at play; and yet, if there be no ground attached to the schoolhouse, they must either use that, or trespass on the neighboring property,—a temptation to which we should be careful not to expose our youth, especially at school, where every evil influence should be sedulously avoided. By all means, then, let them have liberal space for exercise and amusement.

The lot should be enclosed by a neat and substantial fence, with two or three openings, sufficiently large to admit a man, yet narrow enough to exclude cattle. There should be a gate, or a part of the fence should be so constructed as to admit of being taken down in Winter, to admit teams with wood, and a horse and snow-plough,* to clear a passage from the highway to the schoolhouse door. The lot may be ornamented with a *row* of trees inside the fence, and two or three small, *irregular groups* of the handsomest native forest trees, scattered, without order, in the grounds.

On the south side of the schoolhouse, there should be a border of flowers; and the east and west sides of the building should be decorated with roses and honeysuckles. It would be well, to have this little spot of cultivated ground covered with straw and boards, in Winter, and, every Spring, dug up and well manured by the committee, leaving the after-culture to be managed by the scholars, under the direction of the teacher. In the lot, there should be a circular swing,† and a few poles and ladders for gymnastic exercises.

These little accommodations for the children will pro-

* A snow-plough may be made of two pieces of plank eight or ten feet long, joined at an acute angle, with one or two round sticks passing through, to strengthen them. A horse, attached to the apex, will clear off the snow in a few minutes.

† The circular swing is made, by placing two horizontal beams or yards, at right angles to each other, on the top of an upright shaft, so fitted that the beams will turn easily on the shaft. From each of the four ends of the beams a rope is suspended, the lower ends of which reach to within four, five, or six feet of the ground. Four children seize on these ends, and run round and round, leaping and hanging by the rope. The shaft may be twenty feet high; the longer the beams or arms are, the better, as that increases the circumference of the circle.

bably appear trifling to many readers, and altogether unworthy the notice of a writer on education. Nothing, however, should ever be considered a trifle, which can, in any measure, exert an influence on the moral character of youth. Children must and will have their amusements. And it is right that it should be so; for God has placed an abundance of innocent pleasures within our reach. Had He intended otherwise, He would never have decorated Nature with such splendid hues; endowed flowers with such delightful fragrance; furnished us with the natural music of the grove; nor given us tastes, which can be gratified without the slightest rebuke from the conscience. But, unfortunately, when left entirely to themselves, youth will frequently engage in amusements, hurtful to the temper, leading to gambling habits, or connected with cruelty to the brute creation. Such are games of violent competition, or of chance; the practice of torturing insects, or of setting dogs, cats, and chickencocks, against each other. It is a matter of the first importance, then, that children should acquire a taste for the beauties of Nature; which nothing is more likely to awaken, than the cultivation of plants. In another respect, its tendency is useful. The flower-bed is a beautiful embellishment for the farmhouse; it is one of the cheapest and most refined of the sensual pleasures; tends to inspire a love of home; and is seldom, if ever, connected with such as are grovelling in their essence, or degrading in their tendency. How very much more desirable is such a taste in the community, than the mean competition for showy and expensive furniture and dress, the silly aping of city fashions, which the influx of wealth is spreading through the land! Were the agricultural population sensible of their own value and importance, they would set an *example* to the community, in place of copying, at second-hand, the follies of Paris and London.

Construction and Internal arrangement of Schoolhouses.

It would be impracticable to describe a schoolhouse, which would serve as a model for every situation, and

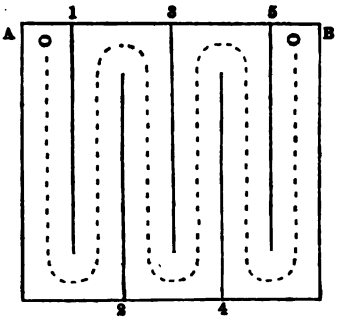
every kind of school. But some general principles may be laid down, which will easily admit of sufficient modification to suit every case.

In the first place, the building should be substantial, and constructed of the best materials. A good schoolhouse adds to the value of every house and farm in the district, and that in a much greater ratio than the mere difference of expense between a good and a poor one. Brick or stone would be preferable, where easily to be procured; but, whatever be the material, let the building be thoroughly constructed. The form should be oblong, and, if possible, one of the longer sides should front the south, this exposure being both warmer in Winter, and cooler in Summer, and affording better means for a steady light in the schoolroom, as will be presently shown. At the east or west side, should be the woodshed, at least as large as the schoolhouse, so as to afford room for the children to exercise in, in bad weather. It should be closely boarded, with a window on the east or west, and a door on the south, to serve, also, as outer door to the schoolhouse. On three sides of the woodhouse, the boards near the ground should be fixed with hinges, to be raised up in Summer, for a free circulation, to season the wood, of which a full supply of the best to be had (which is always the cheapest) should be laid in, towards the close of Winter.

The underpinning of the schoolhouse should be stone and lime, to prevent the cold air affecting the floor, so as to chill the children's feet. The walls of the schoolroom should not be less than ten feet high, to prevent injury to the health in cold weather, when the room is shut up, from re-breathing the same air.* With the same view, there should be a constant supply of warm air flowing into the room, which may easily be thus obtained: Let there be a double bottom to the stove, the lower fitting closely to the

* See Report of the Secretary of the Massachusetts Board of Education, on the subject of schoolhouses. It is much to be desired, that every State, that either possesses, or proposes to institute, a system of public education, should publish an edition of this admirable treatise, for gratuitous distribution.

upper by the four edges, and by the flanges, marked, 1, 2, 3, 4, 5. Let there be two openings in the back part



of the plate; the one at A, communicating with the outward air, by a pipe, which passes through the floor, and thence through the south wall; the one at B, communicating with the schoolroom. From the above figure, it will be perceived, that the outward air, entering at A, will pass six times, lengthwise, across the hearth of the stove, before it passes into the room, at B. It will thus be sufficiently warmed, and yet, being protected, by the ashes, from the great heat to which the sides of the stove are exposed, it will not be burned, i. e. deprived of its oxygen, and thus rendered unfit for respiration, as air heated in furnaces commonly is, in a greater or less degree. By coming out at the back part, it will not be liable to be drawn in at the door of the stove. There will thus be a continual interchange of fresh, warm air, for the fouler air passing into the stove to supply the draft. The heat of this air should not be greater than is pleasant to the hand, being regulated, reciprocally, by the quantity of ashes in the stove, and, directly, by the intensity of the fire. Such a stove-plate as has been described, might be procured at any furnace. Where it cannot be had, its place might be supplied, in some degree, by removing the legs of the stove, and placing it on a small chamber of brick, furnished with openings and tube, as described above. But this, although better than

receiving cold air through every crack and crevice, as at present, would be vastly inferior to the double-bottomed stove. A room, supplied with either of these contrivances, however, would be so full of air, as to cause it to *press outwards*, besides furnishing a supply for the draft of the stove, instead of having cold air continually *pressing in*. As a stove dries as well as heats the air, there should always be an iron basin of water standing on it, as a counteraction.

The floor of the room should be horizontal, there being some disadvantages, and no advantages, in the amphitheatrical form, if the teacher's seat be raised, so as to command a view of the whole room.

The arrangement of the seats, for pupils and teachers, should be as follows: Across each end of the schoolroom there should be an open space of eight or ten feet, and along the north and south walls, a space of three feet. Inside of these spaces, the desks and seats for the scholars should be placed, in parallel lines, lengthwise of the room, with aisles between, never having more than two children at a desk. One would be better. The aisles should be eighteen inches wide, if there be only one child for each desk; three feet, if there be two. The allowance of desk-room, for each pupil, should not be less than eighteen inches; two feet would be better. The front of the desks may form the backs of the seats. These backs should slope a little backwards. The seats should be a foot in width, not perfectly level, but a little lower behind. The edge of the desk should be at such a distance from the seat, as to allow those who write, to lean a little over their slate or paper, without bending the neck or body. The desks should not be less than eighteen inches wide. That part of the top, furthest from the scholar, should be level, for three or four inches; the residue, with a slight inclination, say an inch and a half in a foot. There should be a shelf under the desk, for books and slates; or the desk may be a box, with a cover hung on hinges for a lid. Into the horizontal part of the desk, the inkstands may be let; so loosely, however, as to allow of their being taken out to be filled; and so deep, that

their tops will be on a level with the desks. They may be covered with a metallic lid, resembling a butt-hinge, to rise or fall; or, which is better, with a common slide, or with a flat, circular piece of pewter, having a stem projecting on one side, like the stem of a watch, through which a nail or screw may be driven, not tightly, but so that the cover may be made to slide over or off the orifice of the inkstand, on the nail or screw, as a hinge.

The height of the seats should be ascertained, by the builder calling in children of different ages, to try them, before they are finally fixed, placing the younger in front. But, as there is a continual change in the *proportion* of different ages attending any one school, there should be a number of planed pieces of plank and blocks put away in the corner of the woodhouse, in order that the teacher may always be able so to arrange the seats, that every child may sit at his ease, an object as important, in respect to his mental improvement, as to his bodily health.

Across that end of the room furthest from the door, there should be a platform four feet wide, about sixteen inches above the floor, in the middle of which should be placed the teacher's desk, with a moveable chair. Along the whole wall behind the teacher, should be cases for the library and apparatus, and also for the proper arrangement of the botanical and mineralogical specimens, to be collected by the whole school. Behind the teacher's chair, the work of the cases, for about six feet, should be plain, to serve as a large blackboard; the rest may be of pannelled work. The stove should stand in the middle of the space, at the opposite end of the room. The backs of the seats next the stove, should be high enough to protect the heads of their occupants from the heat. The stove-pipe should pass, horizontally, into the chimney built in the woodhouse, without the use of perpendicular pipe to roast the children's brains. If the room be properly finished, it will be sufficiently warmed by the stove itself, and the supply of heated air. Near the stove, should be a pail and tin cup; and, if there be no house or spring near, a pump should be placed near the door. As the children, while at play, frequently soil their face and

hands, economy, as it regards their books, and a decent regard for cleanly habits, point out the propriety of a basin and towel. At this end of the room, there should be a moveable blackboard, about three feet square.

A clock would be a desirable article, in a conspicuous part of the schoolroom, within view of the teacher's desk. If it struck the quarters, so much the better.

It will have been observed, that, one end of the building being occupied by cases, and the other covered by the woodhouse, the room can be lighted only from the two sides. This arrangement was intentional, being considered superior to that of lighting the room from all sides. Cross-lights are extremely prejudicial to the eye; and a window behind the teacher would only prevent the pupils from seeing his countenance distinctly, without being of material use to him. If the house has been placed in the best position, namely, with one of its sides facing the south, the light will only be from the north and south, the former being the steadiest possible, and the latter can be made nearly so, by white cotton curtains, or Venetian blinds. Should curtains be preferred, care should be taken completely to exclude the sunshine, as a narrow streak of light is more prejudicial than a broad beam. The teacher should always have an eye to this difficulty. If the sunshine be permanently excluded from the room, it is believed, that it will never be found necessary to raise the south windows for air, at all; but, should this not be the case, some plan of fixing the curtains may easily be adopted, that will prevent their being blown aside, and to keep the glare from the scholars' desks. Pegs should be fixed to the two sides and to the stove-end of the room, for hanging the hats and cloaks. These should be numbered, and every scholar should know his number, which should be fixed at the opening of the school.

As a blank wall at the end of the building would be rather unsightly, it will be proper to have false windows outside, unless the district be sufficiently liberal to allow a Doric portico, which would render them unnecessary. At all events, there should be a small cupola, and a bell, which should be rung by a monitor, appointed weekly, by

the teacher. There should be a mat inside, and a scraper outside, of the inner door, that is, the door from the woodhouse. Should the number of pupils be fifty or more, an assistant teacher would be found useful; and a recitation room might be fitted up in the corner of the woodhouse next the schoolroom. Should the number amount to eighty, or more, two assistants would be found more profitable than dividing the district; and, as two recitation rooms would be required, they might easily be fitted up in the upper part of the woodhouse.

If the highway should pass the school in a northerly direction, the gable or portico would form the front of the schoolhouse. If it ran westwardly, the north or south side of the building would be the front. But the road might pass in neither direction, but between the two. In this case, the advantages of the most favorable mode of lighting the schoolroom, and the most pleasant exposure, both for Summer and Winter, must be sacrificed to appearance, or the building put far enough back in the lot, to obviate the awkward appearance it would present, standing neither perpendicular nor parallel to the road. In such a case, the advantages and disadvantages should be maturely considered, and care taken not to sacrifice too much to mere appearance.

School-terms and School-hours.

Enough has been said to show the importance of a *permanent* teacher for primary schools. But a month's vacation in the Spring, and another in the Autumn, would probably have no injurious effect on the scholar, and would be acceptable to the teacher, as a relaxation from her toil. The school should *not* be kept longer than six hours a day, divided into two equal portions, with an hour or two's intermission, between. The practice, getting into use, in some of the cities, of throwing the two periods into one, cannot be too severely reprobated. Six hours a day, then, would be sufficient for the older scholars: longer periods would not be profitable. For children between seven and ten, four hours a day would be quite enough; and children under seven should never be

confined longer than an hour at a time making two hours a day. Longer periods than these would not only injure the health, but defeat the purpose, by producing dulness and inactivity of mind. Perhaps the best arrangement would be the following:

Forenoon.

Children, over ten, commence at . .	9,	A. M.
" from seven to ten, ...	10,	" "
" under seven, ...	11,	" "
Dismissed, together, at	12,	M.

Afternoon.

Commence, together, at	1,	P. M.
Children, under seven, dismissed at .	2,	" "
" from seven to ten, . . .	3,	" "
" over ten, ...	4,	" "

Where the little ones are too far from home to go alone, they would have a woodhouse and a fine yard for exercise, till their brothers and sisters could accompany them. In Winter, they should be freely admitted to the stove, on condition of perfect order and silence.

Discipline.

Perhaps there is no subject on which teachers differ so essentially as on that of discipline. Some are severe in their exactions, and rely, almost entirely, on brute force, for the maintenance of order, to the manifest injury of the moral and intellectual faculties of the child; for punishment, it is to be feared, though it may succeed in producing order, has but too frequently the effect of exciting and inflaming the bad passions of its subject. Others, on the plea that they cannot be always scolding and whipping, are lax in their discipline, forgetful, or rather, perhaps, ignorant, that their plan actually requires more of both, than any other course. Are not both of these systems, however modified, radically wrong? Is it not possible to discover one, founded on the better principles of human nature, less tyrannical than the former, and

less destructive of order than the latter? So valuable an object is certainly worth trying for, even at the risk of failure. Let us make the attempt.

One of the most characteristic distinctions, between man and the inferior animals, is the faculty of perceiving the *difference between right and wrong*, and the instinctive feeling of approbation of the one, and disapprobation of the other. This is, indeed, the essential moral power, to which all others are subordinate and subsidiary, and without which, they would be perfectly inefficient. It is the sense of *duty*; in other words, it is *conscience*. This faculty is one of the first which is developed in the child; and it is, commonly, far more pure than in the adult. In the latter, it is too frequently obscured by neglect, perverted by the influence of the passions, and misled by our interests, and by the prejudices arising out of our numerous associations. Thus, to use the language of Scripture, it is "seared with a hot iron;" useless, or worse than useless; failing to perform its appropriate office of prompter or reprover; silent, when it should speak with a voice of thunder; or speaking so feebly and equivocally, as only to mock and deceive. But, in a young child, this faculty is fresh from the hands of its Maker, and has not yet been exposed to any of those influences which tend to lead it astray. Hence, if our question is only clearly understood, we shall seldom, if ever, fail to receive, in reply, a correct discrimination between virtue and vice, from early childhood.* Would it not appear, then, that this is the principle on which discipline should be based? Surely, there can be no difficulty in showing a child, that it is for his advantage that a school should be orderly and quiet, and that *it is wrong*, either that *he* should waste the time, or obstruct the progress of others, or that *his* time

* President Humphrey, in the Essay already quoted, says, "I am strongly inclined to believe, that infants have a kind of moral instinct, which stands in the place of reason, and which is nothing less than the 'law of the Lord,' 'written upon their hearts.' In other words, that there is an innate feeling of moral distinctions, which invites congenial culture, almost from the birth, and which is *very early blunted* by adverse influences, both internal and external. If so, here is an additional motive for the *early* commencement of moral education."

should be wasted, or his progress obstructed, by his fellows. All that is necessary is, that the simple question should be stated to him, to insure a correct reply.

But there is a still more important advantage than the mere regulation of the school, arising from placing discipline on this foundation. It leads to the continued exercise and improvement of this most important principle of our moral nature. It gradually, without show or effort, leads us into the habit of referring every thing to conscience,—a habit of asking ourselves continually, '*Is this right?*' and that, at a time of life when our principles are all unwarped by those prejudices and passions, which obscure or pervert our vision at a later period.

Suppose that a teacher, on commencing her school, were to address her pupils in some such way as the following, modified, of course, by the peculiar circumstances of the case:

"Please to give me your attention, for a few minutes. I wish to consult* you all, how it will be best to manage this school. Do you know why your parents built this house, and why they go to the expense of having a school kept here? I can tell you. It was to make you, children, *wise*, and *good*, and *happy*. But you all know, that you could not learn much, if the school was noisy, and disorderly. How could I hear the classes rightly, if you were talking, or moving about the school?—[Pause.]—Do you think it would be *right*, for [John] to talk, and prevent [William] from getting along with his studies? Do you think it would be right, for *me* to allow *any one* to run about, or talk, so as to disturb the others? All of you, who think it would be right, for *me* to allow this, will please to stand up in your places. What! do none of you think it would be *right*, for me to allow it? Well, then, I wish all of you, who think it would be *wrong* in me to allow it, to stand up.—You all think it would be wrong, then. Now, do any of you *wish*

* Although it would be well, in most instances, to *consult* the school, the children should distinctly understand, that the teacher has authority to enforce *what is right*, independently of their decisions, which cannot be presumed, on all occasions, to be correct.

me to do *wrong*? But you all know, that I have been placed here to teach you, and to prevent any of you from injuring or hindering the others. I am sure, then, that none of you wish me to *cheat** your parents, or injure you, by allowing the least disorderly conduct or noise in this school. And I assure you, that I cannot suffer it, because I know it would be wrong.

"But I wish this to be a pleasant school, as well as a profitable school. I know that it would be painful for [little] children, like you, to sit perfectly still, and not speak a word for two or three hours at a time. And I will not ask you to do any thing so disagreeable. Therefore, every half-hour, [or quarter, if children are mostly small,] I shall touch this bell, so, [or clap my hands,] for you to step out into the aisles, and sing, and march round the room, [or converse.] And, as soon as I touch the bell again, so, I shall expect every one instantly to sit down in his place, and resume his studies. Now, let every one, that can sing, join me in a song, and all the rest pay attention, so as to learn.

'We 'll all love one another,
We 'll all love one another,
We 'll all love one another,
As children ought to do.

'We 'll love our teachers, also,
Our fathers and our mothers,
Our sisters and our brothers,
As children ought to do.'"

This lecture on discipline will be long enough for the first day. For we must be careful, if we would have attentive auditors in children, not to talk to them too long at a time. The following day, the subject may be thus resumed:

"We had some talk, yesterday, about the management of the school. Who can tell me what we thought would be right, and what we thought would be wrong? All, who remember, may hold up the right hand. John, do you

* Children should never be taught, either by example or precept, to call *bad* actions by soft names. Let cheating, lying, and stealing, receive their own proper appellatives.

tell us what would be right.—Mary, do you tell us what we said would be wrong. You will please to recollect, then, that we all agree, *that it is wrong* to look, or speak, or touch any one, who is at his studies. If there is any thing we wish to say or do, we should wait till the bell rings. I know that waiting will be a little hard for you at first. But you will soon get accustomed to it; and *then* it will be quite easy. It is likely some of you may forget, and break the rule, by whispering, or touching one another. Now this would be wrong; but it would be *much worse* for you to deny it, or to try to hide it. For this would be either telling a lie, or acting a lie, a thing that no good child will *ever* do. No liar can ever be respected or loved. Now, whenever I think the rule is broken, I will tap on the blackboard, thus. And then I expect that the scholar who has broken the rule will stand up, and say, that it was he that did it. And, if he is sorry for his fault, I shall ask the other scholars to forgive him. I say, the other scholars; for it is not me that he will have wronged, but the whole school, by making them lose their valuable time. I don't wish you to tell of one another. We should not be too ready to see or talk of one another's faults. We shall all have enough to do, to find out and correct our own.

"There is one thing more, I wish to say to you, to-day. There has been a good deal of pains taken, to fix up this room for study, and I think it would be best that *we* should use it for no other purpose. Whenever we are in this room, then, let us recollect, that we are here to learn to be good, and to be useful. We have a fine woodhouse and lot for play. So there is no occasion to use the schoolroom for playing. Let us have no wrestling, then, no noise, nor confusion, at any time, in this room. Whether I am here or not, let all be peace and order. As soon as you come in, go and hang up your hat and coat on your own peg, and take your seat. Unless you are very cold, it is best not to go to the stove. But, if you do go there, be quiet and polite; take your regular turn to warm yourself; and, as soon as you *are* warm, go to your seat, and make room for others. Will

it not be much more pleasant to have quiet and orderly behavior here, than to have this room a scene of racket, and disorder, and noise? When you feel inclined to have a little fun or play, you can easily go into the wood-house, or take a run out of doors. But here, all should be calmness, peace, and order.

"But it may happen, that one or more of you may be heedless, when I am not here, and break this good rule. I should be very sorry, were that the case. But, should it happen, I hope that some of you, who are more attentive, will mildly tell him how wrong it is, and how sorry I shall be to hear it. And if he then stop, perhaps it will be best to say nothing more about it, in hopes such a thing may never happen again. But it will not do to let the little culprit go on, to spoil all your harmony, and injure your tempers. If he will not stop, those who are good must consult, as to who will be the most proper to tell me. If it be a boy who acts badly, perhaps it will be best for the oldest girl to let me know; if a girl, the oldest boy."

In these two little talks, the whole subject of discipline *in* the school has been discussed. But a teacher should exercise a healthful influence *out* of school, as well as in it. She should frequently advise them as to their amusements, pointing out the bad tendency of those that lead to gambling, or that are connected, directly or remotely, with cruelty to animals. She should also, sometimes, visit them at play, and even occasionally join with them.

But we have now to inquire, by what *means* our *one* simple rule of perfect order and regularity is to be carried into effect. Fortunately, these are exceedingly simple. The *first approaches* to disorderly conduct must be uniformly noticed in a mild, but determined tone. Defective discipline arises, chiefly, from a want of *firmness* and *steadiness* in the teacher, and too great laxity at the *commencement* of the school. In most cases, the mere *notice* of the *beginning* of evil will suffice to put a stop to it. But, should it not prove so, all business should *immediately* be laid aside, until the restoration of *perfect discipline*. The teacher should, at once, inform the little culprit,

mildly but firmly, that the operations of the school are totally suspended, till order is restored. This *apparent* waste of time will prove the truest economy. Every minute so spent will save hours, before the expiration of the term. After a short, silent pause, the offender may be asked, "If it be *right*, that he should thus disturb the school?" and "If he be sorry for his conduct?" Should the answers be favorable, the teacher may say, "As he repents, I suppose we must forgive him. Shall we do so?" When forgiven, the teacher may say, "I trust you will be very careful in future; you see you have made [thirty] of us lose, each, [ten] minutes of valuable time, that ought to have been spent in study. That is a loss to us of [five] hours, altogether. But I presume you did not think of that, or you never would have acted so." But, if no answer, or improper ones, be returned to these questions, the rest of the school may be directed to stand up, and give attention. They may then be asked, "Is this child acting correctly?"—"Must we all submit to him, and have our good rule broken?"—"Would this be *right*?" If still obdurate, the next course might be, to appoint two boys and two girls to step out with the little culprit, and reason with him, on the incorrectness of his course. If the obstinacy continue after this, two of the boys may be despatched for one of the committee. Meanwhile, perfect silence should be kept in the school, and all studies laid aside. To the committee, when he appears, say, "Here is a child who refuses to conform to the rules of the school, and persists in disturbing us. It will be necessary, I fear, for you to punish him, or relieve us of his presence." Is there any child who could resist such a course as this? If so, he is fit only for a house of refuge, and should not be allowed the privilege of the school, till his parents brought about a change of conduct. But what would be the effect of such discipline upon the others? Would they not distinctly see the folly of such behavior, and feel, that it could not pass with impunity? Corporal punishment, and even violent scolding, has but too frequently the effect of inflaming the passions of the teacher, and exhibiting him in a very un-

amiable light, before those who ought to love and reverence him. It has also the tendency, with some, to excite a dislike to study. Others, again, are of so sensitive a disposition, that, in the words of a quaint old author, "to such a lad, a frown is a whipping; and a whipping, a death." In a third, it will awaken a spirit of bitterness, or of defiance. But *all* children are strongly affected by the opinions of their playmates. Many a little hero, who would triumph in a sound whipping, would quail under the distinctly-expressed disapprobation of his companions, elicited as above.*

* Just as I had written the above, one of our best teachers happening to call, I read it over to him, and asked his opinion, as to the efficacy of this method of governing a school. "The better to enable you to judge," replied he, "I will relate to you a circumstance, which happened at the school in your district, when I taught there, a few years ago. As there is no play-ground attached to the school, the scholars, of course, as you know, amuse themselves during recess, in the road; and sliding on a board down the long hill, above the school, is a favorite exercise, in Winter. One morning, a neighbor, who lived half-way up the hill, called, to request me to try to prevail on the scholars to desist from this amusement, as they made the road so slippery, that the females of the family were afraid to step out of doors. I told him I would talk to them about it, but, as my authority was confined to the school, it was doubtful whether it would be of much use. Accordingly, as soon as the children were assembled, I briefly stated the facts, and asked, if they were willing to desist. 'I pretend to no authority over your amusements,' said I; 'I merely ask, if you think it *right* to continue this play, when you find it so inconvenient for our neighbors. Now, I wish all of you who think it *right*, to hold up your hands.' Not a single hand was raised. 'Now,' continued I, 'let us try it the other way. All who think it *wrong*, will please to hold up their hands.' At these words, a general rustle was heard in the school, and, on looking around, I observed that every hand was raised. Immediately, one of the boys, with eyes sparkling with humor, asked, if it was right for the *girls* to vote. 'Yes, James,' said I; 'when we are considering about right and wrong, I wish all, girls as well as boys, to vote. And now, children, who, among you, are willing to give up what you all think is wrong? I should be sorry to spoil your play; but, if you will give up sliding in the road, I will go out with you, and we will try and find some other place for amusement. Now, all who are willing to stop sliding, hold up your hands.' Every hand was again raised. At intermission, I accordingly pointed out an adjoining field, where their favorite play might be pursued, though it was a far inferior situation to the one they had relinquished. It appeared, however, that three of the boys, brothers, after trying the new spot, repented of their promise, and, presuming on what I had said about want of authority over their

There are two very opposite kinds of discipline, in schools; the one founded on the passion of fear, the other, on that of love. Every other variety is either a modification, or a mixture of these. It is generally supposed, that the influence of fear is the most certain and easy. That it is the most certain is rather a doubtful point; but, if by easiness is meant that it costs but little *thought* to the teacher, there can be no doubt that it is sufficiently easy. It is both easier and quicker, to give a blow than a reason; but one reason may secure obedience, better than a hundred blows. It may be generally observed, that children, who act only from a fear of punishment, acquire a slavish habit of feeling; and, after having committed an offence, they will not hesitate to avail themselves of those unworthy expedients which low cunning can suggest, in order to escape detection, and its dreaded consequences. But there is one point of view, in which the subject is seldom, if ever, considered, which is undoubtedly the most important of all, namely, its *moral effect* on the *community*. The children of one generation form the community of the next; consequently, whatever *general* moral effect is produced on youth, may be correctly said to influence the whole community.

amusements, repaired to the old spot, and again commenced their favorite play. But this the other boys would not allow. They all went to the road, and, as the recusants would listen to no remonstrance, the boys tumbled them into the snow, every time they came down the hill; and, as even this failed to stop them, two of the majority, at last, jumped on their sled, and broke it to pieces. A struggle was the consequence, in which the culprits had the worse. In the afternoon, complaints were entered, on both sides, which, after a patient hearing, I proposed should be disposed of in the same way as the question in the morning. Accordingly, having recapitulated what had been said and agreed on at that time, I requested all who thought it *wrong* to break the agreement to give up the sliding place, to hold up their hands. Every hand in school was raised, except those of the three infringers, on whose countenances the powerful effect of public opinion was instantly manifest. 'This is all right,' I observed; 'but we have another question to decide. It was undoubtedly *wrong* for these boys to break their agreement; but was it *right* for any one to take the law into his own hands, and to use them ill, and break their sled. I wish you all calmly to think of this, and give your vote, whether it was *wrong* or not.' The decision now was *unanimous:* which at once put an end, both to the quarrel, and the sliding on the road."

Now, the effect of fear is limited to the teacher's presence, nay, even to his sight; for his eye is closely watched by the little mischief-makers. The moment his attention is occupied in one place, the mischief breaks out in another. Like an army in an enemy's country, he holds only the actual ground he stands upon. Has not such a course as this the effect of making us all more or less *eye-servants*? Must not its influence be very pernicious on the practice of virtue, the performance of our daily duties to God, as well as to man? For it cannot be denied, that there are few, very few, indeed, who have an abiding sense of the presence of God. Compare such an influence as this, with that of love! In the one case, the heart asks, *Who sees us?* in the other, *Is this right?** Is it not worth while, then, to give this system a fair trial? But let it *be*, indeed, a *fair* trial. No half-way measures must be pursued. We must begin, by demanding, at once, *perfect order*. There must be no communication, under any pretence, between the pupils, during the periods allotted to study. The slightest approaches to disorder must be instantly noticed, and stopped. And we must not demand impossibilities. The periods of study must be short; in no case, exceeding half an hour; with very young children, a quarter;

* Since writing the above, I have read a speech of Mr. Preston, United States Senator from South Carolina, at a political meeting in Philadelphia, in which he lavishes the most unbounded praise on Mr. Clay, for a sentiment, which, if education were on a proper footing, would be too common to attract notice.

"I have heard him utter," said Mr. Preston, "in his closet, sentiments, which, had they fallen from the lips of one of the ancients of Greece or Rome, would have been repeated with admiration to the present day. On one occasion," continued Mr. P. "he did me the honor to send for and consult with me. After stating what he proposed, I suggested, whether there would be no danger in it, whether such a course would not injure his own prospects, as well as those of the Whig party, in general. His reply was, 'I did not send for you to ask what might be the effect of the proposed movements on my *prospects*, but whether it was *right; I had rather be right, than be President.*' Such sentiments as these indicate the loftiness of the man, and the high purposes of his soul; and they should call forth the admiration and confidence of the Nation. They point to him as the most worthy to wield her destinies."

with intermissions of a few minutes, for change of posture and conversation. The children must have employment; they cannot, if idle, be kept out of mischief. The room must be comfortable, as to heat and fresh air; and the seats and desks must be easy and convenient. And the teacher must indulge in no harshness, but show that he loves his pupils; and this is a matter in which children are seldom deceived. Unless *all* these things are attended to, it will not be a *fair* trial; the failure will be certain.

In accordance with this plan, rewards of all kinds, and even emulation and praise, should be eschewed. To the latter, one exception may be made. A slight degree of praise may be useful, in stimulating the slow and heavy scholar. In all other cases, the complacency and delights of well-doing are amply sufficient.

It would add much to the probability of success, if the plan was previously submitted to the committee, and their sanction obtained. When this has been done, it should be mentioned to the pupils, at the opening of the school.

But it is probable that some teachers may be incredulous, as to the good effects of this species of discipline; and that others may be devoid of the calmness, steadiness, and firmness, requisite to carry it into effect. To all such, a few general observations, on the nature and effects of the system of punishments, may be useful. It seems to have been reserved for modern times, to elucidate, clearly, the true nature and design of punishment, which, by enlightened legislators, is no longer regarded in the light of an expiatory and vindictive process; but rather, as intended to serve, at once, the purpose of correcting and ameliorating the offender, and of deterring others from the commission of similar crimes. This view of the subject is expressly sanctioned by the declarations of Holy Writ; and might, indeed, have been ascertained, long ago, by a careful and attentive study of those sacred records, in which our Divine Legislator has been pleased to reveal the motives which have influenced the dispensations, both of his providence and grace. He is there described as chastening us, not for his pleasure,

but for our profit. In imitation, then, of this gracious procedure of our Heavenly Father, we should keep steadily in view the ultimate good of the faulty individual, and let him see, that such is our chief design in inflicting upon him temporary suffering and privation.

1. First, then, the system of discipline, whatever may be its nature, should be uniform, systematic, and impartial. The teacher should have the plan thoroughly digested in his own mind, and act steadily upon it, not being severe one day, and lax the next; and not passing over, in one child, what he punishes, in another, without very sufficient reasons, which should be explained to the school. Such a course would be the worst of tyranny, and would destroy all the influence of the teacher over the school, and render him the object of hatred, instead of love.

2. The teacher should never attempt to govern by a long, formal set of rules. It is impossible to make rules which will suit all cases; and, even if it were possible, a child could never remember them. He ought, then, rather to endeavor to inspire right feelings, and they will govern his actions. If we love what is good, we shall think and do what is good.

3. When punishments are resorted to, care should be taken that they be not too severe. Unnecessary or excessive severity should be avoided; because it will tend either to keep up a perpetual irritation, or give rise to a hardened, callous feeling; or, what is, perhaps, still worse, induce permanent and irretrievable depression. It is a correct and well-founded observation of the illustrious Locke, that "those children, who are the most chastised, rarely prove the best men; and that punishment, *if it be not productive of good*, will certainly be the cause of much injury." In determining on the kind of punishment, reference should always be had to the character of the pupil, so as neither to awaken bitterness or defiance, nor to break the spirit of a mild and susceptible child.

4. Punishments should seldom, if ever, be inflicted before the school. The effect upon them will be much increased by their uncertainty as to its nature and de-

gree. And besides; if the culprit be taken aside, and calmly remonstrated with, punishment may frequently be rendered unnecessary; or, if it must be inflicted, he will sooner yield in private, than when the eyes of his comrades are upon him. In this situation, pride generally induces obstinacy, which often leads to the very worst effects.

5. The punishment should be administered with calmness, and an affection, which should be real, and not a mere show. For thus it will have a much more powerful effect. Anger, or the indulgence of a vindictive feeling, should be sedulously guarded against. Angry punishments will never do good; for anger shows, even to a child, that the teacher is incapable of governing himself. Besides, we cannot, when angry, see things in their true colors; we cannot weigh them with care; and, if we are hasty with our punishments, they will sometimes fall on the innocent. This would, indeed, be a most serious misfortune. Should it ever happen, no time should be lost in making an ample apology to the sufferer, before the whole school.

6. We should be particularly careful, never to punish for real incapacity or innocent weakness. Surely, this must appear sufficiently reasonable to all; and yet, it is to be feared, that it is a rule too frequently broken. The slow and the dull should rather be encouraged, than disheartened by reproach and punishment. A double share of patience, mildness, and attention, should be exercised towards them.

7. In estimating the measure of punishment, for any offence, we should regard rather the *motive* than the *consequences* of the action; the intention with which it was performed, rather than the effects that may result from it. Hence, children should not be punished for mere accidents, but mildly cautioned against similar carelessness, in future; or, if they are subject to heedlessness, it may be necessary to subject them to some inconvenience, or privation, as the natural consequences of their want of care.

8. There is a certain class of punishments practised by some teachers, which ought to be banished from every

school. Pinching the ears, pulling the hair, beating about the head, with a book, a cane, or whatever happens to be in the hand; these, if once indulged, grow into habits of equal severity and caprice. They are, in their nature, vulgar and offensive; and, being received as indignities, never fail to excite the resentment of the sufferers.

9. But, whatever may be the punishment, it should be continued, till it answers its end. If a child gains the victory by his obstinacy, the efficiency of the school is totally ruined. This consideration makes it a matter of the very first importance, that the nature and degree of each punishment should be well weighed, beforehand, so that we may feel sure it will be effectual.

10. Finally, we should neither exact nor even allow of *promises* of future amendment. Nothing is so readily given, and nothing is so fragile, as a child's promise. We are directed by Christ, to ask, that God would not lead us into temptation. Let us practise towards children, what we ask from our Maker. Let us never tempt them into useless promises, which we know will be broken, and thus harden their tender minds in iniquity. The question should be, *Are* you good? not, *Will* you *be* good? But this subject is too important, for full discussion in this place. It will again be noticed, under the head of Moral Education.

CHAPTER IV.

PHYSICAL EDUCATION, CONTINUED.

Recapitulation.

In taking a retrospective view of our inquiries, on the subject of physical education, we appear to have arrived at the following conclusions:

1. That, in the formation of school districts, it should always be borne in mind, that a good, *permanent* school, within a moderate walk for children of six or seven years

of age, is much preferable to a poor school, for a few months in the year, close at hand.

II. That the distribution of the public funds, *per capita*, is not only unjust, as regards the scholars, but highly injurious to the public welfare.

III. That, as large schools possess many advantages over small ones, the number of teachers, and not of schools, should be increased, as population becomes more dense.

IV. That in every town, there should be, at least, two grades of schools, in which the whole population should receive a thorough education.

V. That the plan of graduating the schools, if properly reduced to practice, would rapidly produce a body of capable and *experienced* female teachers,—an object of the very first importance to the community.

VI. That this plan is also, in every respect, more efficient, economical, and equal.

VII. That the plan should not be carried into execution, in any town, until the people are prepared to receive it; and, then, it should be general, not partial.

VIII. That school lots should be on pleasant and healthful situations, and never less than half an acre in extent.

IX. That they should be neatly fenced, and provided with accommodations for amusement and exercise.

X. That schoolhouses should be neat and substantial structures, and placed with reference to the most equable heat and light, rather than merely to correspond with the highway.

XI. That the woodshed should be at least as large as the schoolhouse, so as to afford room for exercise and play for the children, in bad weather.

XII. That some apparatus should be affixed to the stove, so that the schoolroom may have a constant supply of fresh warm air.

XIII. That care should be taken, that such air be not burnt, i. e. its oxygen abstracted by violent heat, during the process of warming it.

XIV. That the schoolroom should afford ample space

for the evolutions of the school, and that the seats and desks should be commodious and comfortable for the children of all the different ages, likely to occupy it.

XV. That the discipline should be uniform and perfect, the product of love and reason, rather than of fear; and that it should be supported by constant appeals to the Conscience.

XVI. That the school-discipline founded on love has a beneficial, and that founded on fear, an injurious, effect on the whole community.

XVII. That the discipline of the school should receive the sanction of the prudential committee.

XVIII. That the legitimate design of punishment is not vengeance, but the melioration of the offender, and the example to the community.

XIX. That the discipline of schools should be uniform, systematic, and impartial.

XX. That punishments should be mild, but always effectual, administered with calmness, and with a due regard to the motives of the offender.

XXI. That promises of future amendment should neither be exacted nor received.

CHAPTER V.

INTELLECTUAL EDUCATION.

Introductory.

—— "What is a man,
If his chief good, and market of his time
Be but to sleep and feed? A beast, no more."—
Shakspeare.

Among the various popular errors, which tend to retard the improvement of society, there is none, perhaps, more pernicious, than the opinion, that the main object of school education should be the *acquisition of knowledge*. The cause of this mistake is the notion, universally prevalent, that school learning, instead of being merely *one* of the *means* of acquiring an education, is

education itself. This is an error, the removal of which imperatively calls for the united efforts of intelligent philanthropists; for, until this is effected, our schools can never even approach to that degree of improvement, which they ought to attain. The chief, may we not say the sole, concern of man on earth is EDUCATION; and the great business of schools and colleges is, to prepare him to *enter* on this course of education with ease and effect. To do this properly, three things are requisite.

1. He must be taught to *read*. Reading is the great key to knowledge. He, who has *properly* acquired it, has all the stores of learning, which have been accumulating for nearly six thousand years, completely at his command. There is no art or science, of which he may not make himself master. Whenever he pleases, he can converse with Moses, Socrates, Seneca, Cicero, or Jesus. He can summon before him the founders of nations, all the warriors and mighty monarchs of antiquity, and question them as to their actions and motives. The philosophers and cultivators of science, of all ages and of all climes, are constantly in waiting, ready, at his call, to throw all their stores at his feet. He may acquaint himself with all the productions of Nature and art to be found on the globe. He can make himself familiar with the most trifling, as well as the most valuable, stone, or flower, or fruit, from the furthest region of the earth, at his own fireside. Nor is his knowledge confined even to the globe he inhabits. Without leaving his own house, he can examine, through Herschel's great telescope, the planetary worlds, rolling around him, and he can call on Lalande and Laplace to explain all the wonders of the heavenly bodies, and all the seeming intricacies of their motions.

Reading makes a man a denizen of all nations, a contemporary of all ages. Carlyle, in his 'Sartor Resartus,' says, "Fortunatus had a wishing-hat, which, when he put on, and wished himself any where, behold he was there. By this means had Fortunatus triumphed over space, annihilated space; for him, there was no Where, but all was Here. Were a hatter to establish himself in

the Wahngasse of Weissnichtwo,* and make felts of this kind for all mankind, what a world we should have of it! Still stranger, should, on the opposite side of the street, another hatter establish himself; and, as his fellow-craftsman made space-annihilating hats, make time-annihilating! Of both would I purchase, were it with my last groschen; but chiefly of this latter. To clap on your felt, and, simply by wishing that you were any *where*, straightway to be *there!* Next, to clap on your other felt, and, simply by wishing that you were any *when*, straightway to be *then!* This were, indeed, the grander; shooting, at will, from the fire-creation of the world to its fire-consummation; here, historically present in the first century, conversing, face to face, with Paul and Seneca; there, prophetically in the thirty-first, conversing also, face to face, with other Pauls and Senecas, who, as yet, stand hidden in the depth of that late time!"

Does not reading give us the possession of two felts, in a considerable degree resembling those for which our poetic historian was willing to part with his last groschen? When we clap on *both* these hats, may we not, in an instant, transport ourselves *into* Athens, *in* the first century, to hear Paul deliver his celebrated speech before the Areopagitæ? Then, by a wish, may not the time-annihilating hat place us some three centuries backwards, to listen, in the same city, to the philippics of Demosthenes? and, two centuries further, to hear Herodotus recite his history at the Olympic games? and anon, by the aid of both our felts, twenty centuries later, on the deck of the Santa Maria, on that important morning, whose dawn first disclosed to civilized man our Western world? We hear the solemn Te Deum sung by the crews of the little barks on that joyful occasion, and join in their

* *Wahngasse of Weissnichtwo,—literally*, Whimsey-street of Know-not-where. Carlyle appears to have fixed his amiable professor, *Teufelsdröckh*, (*literally*, Devil's drug; *Scotticè*, Devil's dung; *assafœtida*,) in the same place where Scott located the Monastery over which the mild, peace-loving Abbot, Ambrosius, presided, viz., in Kennaquair, *Anglicè*, Know-not-where. Wonder if the professor never selected the ruins of its splendid abbey, as the site of his profound ruminations.

tears and mutual gratulations. When, ho ! presto ! in the twinkling of an eye, we find ourselves seated amongst our countrymen, in a splendid steam-boat, gliding, as by magic, on a mighty river, amongst towering mountains, or whirled along by fire upon the land, in the rapid car. And, as soon as the slightest degree of fatigue is felt, hey ! in an instant, we are at our own fireside, our whole family seated around us. Nay, have not our hats another wonderful property, which even that of Fortunatus did not possess ? Are they not so *expansible* and *elastic*, as conveniently to accommodate any number required, beneath their ample shade ? Cannot we carry our family and friends along with us, in our miraculous excursions any where and any when ?

2. But, in order that all these advantages may be derived from reading, the faculty of *attention* must be fully developed. By constant exercise of this power, the scholar must be enabled, at any time, to bend his whole mind to the subject with which he is engaged, to the exclusion of all others. This is an indispensable requisite. It is from the want of this, that our schools have hitherto been, in a great measure, useless to the mass of the community. When completely acquired, i. e., when a child can merely *read* with *attention*, all the impediments to self-education are completely removed. He may make of himself what he pleases. It is attention which constitutes the great difference between the wise man and the fool ; it lies, indeed, at the foundation of all intellectual culture. Fortunately, this power, as will presently be shown, is easily acquired in *early* life. But the longer its cultivation is delayed, the more difficult its attainment, until, at length, it becomes almost impossible to acquire it to any degree of perfection.

3. The third indispensable requisite of school education, is the habit of *observation*. The difference in mankind, as to this important habit, is immense. Vast numbers of persons pass through life, without seeing or hearing any thing but what relates to the most gross and common concerns. As to every thing else, they seem to be in a state of dreamy unconsciousness. In the lan-

guage of Scripture, "Seeing, they see not; and hearing, they hear not; neither do they understand." Others, again, seem to live with all their senses wide awake. The one has nothing in view but the acquisition of property, or the indulgence of the grosser propensities of his nature. The other, without necessarily neglecting any of his more common duties, is not wholly absorbed in them. Nature appears to him in all her beauty, and continually converses with him in strains of the most exquisite poetry. What appears mere nakedness and ruggedness, to the one, is, to the other, a scene of sublimity and beauty. Hence, while the one sees the mere body, the husk, as it were, of Nature, the other looks inward, and converses with her soul;

> "Finds tongues in trees, books in the running brooks,
> Sermons in stones, and good in every thing."—

The faculty of observation, then, must be developed at school, in order to prepare the scholar fully to enjoy all the advantages offered in the great School of Nature.

These, then, are the three *great* requisites of intellectual education, in our common schools. But these are, by no means, all. The whole of the intellectual faculties should receive such a training, as will bestow on the mind a proper degree of vigor, symmetry, and proportion.

A great deal of knowledge will, it is true, be acquired in every school that is properly conducted. But still, this should be considered as *incidental*, not as the *main object* of the school. The teacher should not direct much of his attention to this point. The grand objects he should have continually in view, towards which he should unceasingly press forward, should be, to teach reading without bad habits, and to develope the faculties of observation, attention, reflection, reason, judgment, memory, imagination, and taste.

Nor will this be so difficult a task for the teacher, as may, at first sight, appear. The proper mode of teaching reading will be exhibited, in all its details, in a subsequent chapter; a mode which will not only avoid the formation of bad habits, but which will, if fully carried

out, tend to the developement of *all* the valuable faculties of the human mind. The same may be said of composition, perhaps, in a still greater degree. The mathematics, including arithmetic, both mental and written, when taught on true principles, and divested of all mechanical rules and unnecessary tables, will coöperate to the same valuable end. And, finally, the study of the learned languages will tend to fill up all the little vacancies or omissions of the former studies. Thus most, or all, of the studies in both grades of schools, if properly pursued, will regularly and constantly tend to produce the desired effect.

Much difference of opinion exists on the comparative value of the mathematics and classical studies, as means for disciplining the mind. The truth seems to be, that neither are complete means for that purpose. The mathematics, independent of their value as indispensable steps towards the attainment of the exact sciences, are invaluable aids for developing the faculties of attention, reflection, and reason. They deal, however, exclusively with *certainties*. And, as the most important concerns of our life, in which our judgment is required, are *probabilities* only, it follows, that we must look elsewhere for means of developing some of our most valuable faculties. Here, the classics, or study of the dead languages, opportunely steps in to our assistance, and aids in bringing out our judgment, memory, imagination, and taste. If, then, we would have pupils completely fitted to enter the great College of Nature, neither of these important branches must be neglected. And, if both are properly and thoroughly taught, they will be fully prepared to enter on that *grand course of study*, which, if it is ever destined to close, will close but with life.

CHAPTER VI.

INTELLECTUAL EDUCATION, CONTINUED.

Teachers' Seminaries.

THE great object of these seminaries should be, to furnish instruction, such as is not only necessary to prepare teachers for the important and complicated duties of their profession, but such, also, as is not elsewhere to be procured. For, in truth, there would be but small advantages derived from the establishment of an institution of this sort, the whole, or even the greater part, of whose attention should be devoted to teaching the mathematics, the sciences, and the dead and living languages. This species of knowledge can be readily obtained in most of our established academies and colleges. But what is really wanted is, an institution where teachers shall learn to *read* properly, a point in which most of them are sadly deficient; where they shall acquire the *Art of Teaching*; the best and easiest manner of unfolding and cultivating the various faculties of the human mind; of directing the inquirer in his search after truth; and of teaching him the arts of observation, classification, and investigation. In such a school, the pupils should be alternately teachers and scholars; that is to say, they should be initiated into the *practice*, as well as into the *theory*, of the art of teaching. They should be required, by turns, to lecture to each other, on all the subjects brought under the notice of the school; and to visit the neighboring district schools, for the purpose of trying their qualifications as teachers under the eye of their instructer; or regular periods may be appointed for receiving classes from the neighboring schools, with that view. Each pupil should also be required to take turns in lecturing from the blackboard, of the great value of which but few of the teachers seem, as yet, to have an adequate idea, or else are ignorant of the mode of bring-

ing it into practical use. And, finally, the subject of morals and discipline should be fully discussed, and every member of the school daily questioned on these subjects, until they have become perfectly familiar.

How should these seminaries be supported? As the object is not the individual advantage of the teacher, but the general good, of course, the expense should be borne by the public. But, in fact, the necessary expense would be a mere trifle, should the system of central schools be carried extensively into operation. For, as it is chiefly, if not exclusively, the *primary* schools that require the aid of these teachers' seminaries, and as these schools would be supplied by permanent teachers, a new race of well-educated youth would be ready to take their place, before the teachers who had been educated at the seminary had left the stage. In fact, in a very few years after such institutions had been in operation, every district school would present a *model*, from which those, who wished to devote themselves to teaching, might learn the true art, in a very short time. Teachers' seminaries, then, are only wanted temporarily, if other matters are properly arranged.

With respect to their number, let us take Massachusetts as an example. In this State, three would be abundantly sufficient. One might be located at Boston, another at Worcester, a third at Northampton. Or, if the Legislature is incredulous as to their effects, and not willing to establish three, a trial might be made by *one* at Boston, to be held at Worcester and Northampton the second and third years.

The school ought to be free to all who should subscribe to its regulations, and provide themselves with suitable books, which need not exceed two or three. The total expense to the State might probably be about fifteen hundred or two thousand dollars per annum, for six years. If the situation of Principal to such an institution were conferred on a person of suitable talents, and sufficient enthusiasm for the cause, the benefit to the State would be incalculable. A similar arrangement might be adopted by every other State, that took suffi-

cient interest in the improvement of universal education. If this cheap and practicable mode of diffusing information should be generally adopted,—and it only waits for some public-spirited legislature to take the lead,—the schools throughout the land would be revolutionized, in the course of a very few years. And our colleges must follow suit. For they could not exist, without advancing at least, *pari passu*, with the schools.

Qualification of Teachers.

The indispensable *literary* qualifications of a teacher of the primary school are, reading, orthography, writing, arithmetic, the principles of composition, and geography. But it is very desirable, that she should possess a knowledge of book-keeping and vocal music, in order that she may teach them; of moral and intellectual philosophy, the philosophy of grammar, history, algebra, and geometry; as, though not intended to be studied in the primary school, they are necessary for her own intellectual improvement, and to enable her to teach, with effect, the branches that *are* studied there. If, then, a young woman possess a thorough knowledge of the first six mentioned branches, she may consider herself qualified to *commence* a school. But, as these observations apply only to the present state of education; as, in a few years hence, it is probable, that no one will even propose to assume the profession, without much higher qualifications; such primary teacher ought, without delay, to set about the acquisition of all the branches mentioned. Should she be really qualified by Nature for teaching, she will hardly find any difficulty in these studies, which she cannot conquer alone. At all events, if insuperable difficulties should occur, there are few situations where she will not be able to find willing assistance to overcome them.

Where the central-school system has not gone into operation, the literary qualifications of the teacher should considerably exceed what has here been stated.

The literary qualifications of a teacher of the central school ought to be,

1. The Mathematics: viz. their general principles: algebra, geometry, conic sections, and fluxions; and their application: plane and spherical trigonometry, mensuration, navigation, surveying, and civil engineering.

2. The Classics: or a knowledge of the dead languages.

3. The Modern Languages: French, Spanish, Italian, and German.

4. Grammar, Rhetoric, and Composition.

5. Natural History: viz. the mineral kingdom, mineralogy, geology, and meteorology; the vegetable kingdom, botany; the animal kingdom, zoology, ornithology, entomology, ichthyology, and conchology.

6. Chemistry and Natural Philosophy.

7. History, Mental and Moral Philosophy, Political Economy, Physiology, and Comparative Anatomy.

8. Drawing, and Vocal Music.

Teachers with such extensive qualifications could not now be procured; but none less qualified than the members of the senior classes of the colleges ought to be thought of. If the central-school system, however, should go extensively into operation, the colleges would be forced to enlarge their course of study, as the freshman class from the central school would be nearly equal to the present graduates; and so, every year, we should have better teachers. Thus, the general adoption of this system would no less advance the education of professional men, than that of the great body of the people. This is the true method of improving education. Begin at the foundation, and the whole superstructure ascends. Elevate the common school, and the colleges must rise.

With respect to intellectual and moral qualifications, both grades of schools demand similar requisites.

1. The teacher should understand the *object* of education. He should no longer contract its usefulness to the ignoble object of enabling men to conduct the mere *business* of life. He should have a strong and clear perception of the truth, that the object of school education is not even principally to acquire knowledge, but to form habits of mental industry, to train the mind to find pleas-

ure in intellectual effort, and to inspire a love of knowledge *for its own sake.*

2. The teacher should be a good reader, able to make the hearer feel and perceive all that the author intended. This, however, is so rare a talent, that, until teachers' seminaries have been some time in operation, it will be nearly in vain to look for it.

3. He should be able to illustrate and simplify every thing he teaches, and, therefore, should have the power of communicating his ideas with clearness and precision. He should know how to make children think, by means of appropriate questions. He should, also, be apt at finding means of rousing sluggishness, and correcting waywardness; of inciting the idle to diligence; of strengthening good principles where they exist, implanting them where they are deficient, and, in all, forming habits of order, industry, patience, and obedience.

4. He should possess decision and firmness; patience and perseverance; uniformity of temper, and complete self-command.

5. He should be pleasant and affectionate, and well qualified to sympathize with children. Empty professions of interest and attachment will not succeed; children, in this respect, cannot be deceived. There is nothing that so invariably begets its like, as love. If the teacher desires his pupils to love him,—and this is what every teacher should desire,—it is only necessary for him to love them. He should also show, that he takes an interest in their sports, and sometimes unbend, so far as to take a share in them. He should appear gratified at their simple efforts to please, by presenting a flower, an apple, a cake, or any other token of regard; be willing to comply with every request, and to grant every indulgence, not incompatible with duty, or their own good; but firm in refusal, when compliance would be wrong.

6. The moral character of the teacher should be unimpeachable, in every respect. He should be a pattern of neatness, and order; and, to crown all, and which, in

fact, embraces the whole matter, he should be a lover and steadfast follower of TRUTH.

Duties of the Prudential Committee, as to choice of Teacher.

When the primary school shall be conducted by permanent teachers, the importance of a judicious selection will be much enhanced; and it is to be hoped, that the affair of wages will then form but a minor consideration. The committee, to whom the choice is intrusted, should well consider the responsibility he assumes; that it is not, as heretofore, a mere temporary arrangement, but one, on which may depend the weal or woe of the whole rising generation of the district. The inquiry into the moral character, and other qualifications of the candidate, can never be too close and strict; for it now assumes a tenfold importance. When a good teacher has been secured, it would seem proper, that she should not be subject to dismissal from the caprice of every new committee. It is, at least, worthy of consideration, whether it should not require the vote of the district to bring the contract to a close.

Conventions of Teachers.

Having thus shown how teachers are to be instructed, by means of institutions for that purpose; the qualifications they ought to possess, before they enter on their profession; and the duties of committees, in making a selection; it will now be proper to inquire into the best means for teachers to adopt, in order to continue and extend the course of improvement on which they have entered. It is one of the laws of man's nature, that he is *to move always, to stop never*. His career must either be forward or backward. And more particularly is this the case at the commencement of any course, before his knowledge has become fixed by habit. From this principle arises the importance of teachers' establishing societies among themselves, for mutual advice, encouragement, and improvement.

It is highly probable that great differences will exist, in respect to the capacity and talents of the pupils in the

Teachers' Seminary. Some will quickly understand and appropriate all that is brought before them. Every little hint will lead to careful examination and reflection, and frequently bring out much good, which was never in the contemplation of the teacher. Others, of a more slow and mechanical disposition, will originate nothing of themselves, and, in many cases, will but partially catch the views of the teacher. Some will carry improvements into effect in their *true spirit*, and meet with complete success in carrying them into practice; others will act on the *dead letter*, only, and will fail. It becomes, then, a matter of the first importance, that a free interchange of thought and sentiment should exist between them, that the weak may be encouraged by the strong, and that the timid may be strengthened by the success of the more bold. In this manner, also, any false hypotheses that may have been advanced by their teacher may at once be quashed, after its unfitness has been demonstrated by so extensive an experiment as could be carried on by such a society.

As soon, then, as the schools are generally in operation, a meeting of all the teachers in town should be called, through the medium of the pulpit, or in any other convenient mode. At this first meeting, the plan of operations might be determined on. These might be: 1. A recital of the experience of teachers, particularly as to improvements, or new modes recommended in the Teachers' Seminary, or in education periodicals. 2. Recitals of the modes of discipline practised in the several schools, and remarks on their advantages and disadvantages. 3. Discussions on both these subjects. 4. Reading, from works on education, or periodicals. 5. Lectures. Such meetings could either be held weekly, once a fortnight, or once a month, according to circumstances, at some central schoolhouse, or other convenient place. The officers of the society might be a president, vice-president, and secretary, which last should keep a regular journal of proceedings, to be copied into a bound book. At the last meeting, previous to each vacation, every member should be required to furnish returns of

the state of his school for the past season; specifying the number of children under seven years of age, between seven and ten, and above ten, discriminating the boys and girls of each class; also, the average attendance, and what measures, if any, had been adopted, to produce regularity, and their success. The various studies attended to should also be specified; the books used, with remarks on their comparative value; the size and nature of school libraries, where they existed; the measures adopted to induce careful usage of books, and their success; and remarks on the mode of discipline and system of tuition, noticing failures as well as successful experiments. An explanatory lecture on the arrangement and value of such returns, at a previous meeting, would be highly salutary. Or this might be prepared by some gentleman of intelligence and zeal, and circulated through the districts, through the means of some education periodical. The returns might be filed by the secretary, and embodied by him, at leisure, into one report; or, if there were a central school, this last duty might be performed by the principal of that institution.

In each county, there ought to be a convention of teachers, annually, or semi-annually; those counties that are inconveniently large being divided into two districts. Such conventions might either be attended by all the teachers, or by a delegation from each town. Similar offices to those of the town conventions would probably be found convenient. If so, it might be made the duty of the secretary, besides keeping the records, to receive and digest into one the reports from the town societies, which it should be the business of the principal of the central school, or of the deputations from the respective towns, to present to the convention. At these meetings, resolutions on the subject of education, and, especially, respecting proposed improvements, or such as have been already tried, might be proposed for discussion. As a large majority of the members, both of the town and county societies, would probably be females, the discussions should assume as much of a conversational style as possible, in order to prevent the ladies from withholding

their valuable experience and suggestions. In the towns where the county conventions are held, it is very desirable, that some of the influential inhabitants should assume the care of providing accommodations for the teachers during the sitting of these conventions. Their object being public good, and not the individual advantage of the members, it would be a great oversight to discourage attendance, by making them a source of expense. In the town where the writer resides, with a scattered population not exceeding two thousand, accommodations were provided, a few years ago, for two hundred teachers, without charge, during a convention which lasted for four successive days. The same spirit would, no doubt, be shown by any town in New England, where individuals were found willing to step forward, and propose the arrangement. If the subject were properly presented to the Legislature, the State would undoubtedly make a small appropriation, to cover the expense of printed forms of returns, &c., and receive, in return, a copy for the use of the government.

School Libraries.

There is one difficulty attending the improved modes of education, which, in some places, has proved rather annoying. But this, like most of the evils of life, will be found, on a full and fair examination, to be rather imaginary than real; or rather, if not actually a good in itself, capable, by proper management, of *resulting in a good*. The difficulty alluded to is the expense, arising from the great number of books required in all our improved schools. For not only is the course of education very much extended, but a much greater variety of reading books becomes absolutely necessary for the younger classes. Where the old, mechanical mode of teaching reading is practised, one, or at most, two, kinds of reading books are all that are requisite. For, in this mode of reading, if reading it may be called, which scarcely differs from the inane chatter of a parrot, a book may be conned over nineteen times, and, on the twentieth, be still as new as ever. But, when a book has

only been read once, or, at most, twice, according to the improved method, the contents have become perfectly familiar to the whole class. And to make them recommence would obviously much impede their progress, directly as well as indirectly. Hence, every few weeks, there is a call for a new book; a call which must be answered, or education is at a stand; but which, at the same time, becomes a serious tax to a large family in humble circumstances.

Happily, the remedy for this difficulty is equally obvious and simple. Libraries are money-saving institutions, mental levers,—bringing within the reach of the poor what was formerly considered the exclusive privilege of the rich. And nowhere can their effects be more beneficial than in a school. Indeed, they are indispensable to universal education. For not only do they reduce the school expenses to the merest trifle; but they provide food for the craving, irrepressible appetite for knowledge, which has been created there. How can any one pretend to be friendly to a good *universal* education, and yet in opposition to district libraries? Why take pains to create a desire for knowledge, in the community, and obstinately refuse the only means of gratifying it? When you have given a person a taste for knowledge, and the means of gratification, he can hardly fail of being a happy man; unless, indeed, a most perverse selection of books is put into his hands. He is placed in contact with the best society, in every period of history; with the wisest, the wittiest; with the tenderest, the bravest, and the purest, characters, which have adorned humanity. It is hardly possible, but that his character should take a higher and better tone, from the constant habit of associating with a class of thinkers, to say the least of it, above the average of humanity. It is morally impossible, but that the manners should take a tinge of good breeding and civilization, from having constantly before one's eyes, the way in which the best bred and the best informed men have talked and conducted themselves, in their intercourse with each other. There is a gentle but perfectly irresistible coer-

cion, in a habit of reading, well directed, over the whole tenor of a man's character and conduct, which is not the less effectual, because it works insensibly, and because it is really the last thing he dreams of. It civilizes the conduct of men, and suffers them not to remain barbarous. Another of the great advantages of reading is, that it furnishes us with *interesting* and *safe* topics of conversation with our friends. To live with books is to inhabit a region far above the din, and turmoil, and petty vexations, which unnecessarily engross the minds of some, who pretend to cultivation. It is very difficult to talk of *people*, without violating the laws of charity and of truth; it is, therefore, best to avoid it. By substituting books, and the vast variety of characters and opinions which they present, ample scope for the expression of thought and feeling is afforded, for the discussion of various questions, for sharpening each other's wits by collision of sentiment, correcting the judgment by comparison and discrimination, and strengthening the memory by repetition and quotation.

School libraries ought to consist of two kinds of books: viz. books for the use of the school, and books for circulation. Of the former, there should be a great variety for the reading classes, and not more than four or five of a kind. For, as they will only be needed while the classes are reciting, one book will answer very well for two scholars. Of the books for study, such as geographies and treatises of written arithmetic, a sufficient number will be wanted, to supply one for each student. The remainder of the library should consist of a sufficient variety of subjects, from the simplest story-book for the child of six years, to the most valuable works on history, biography, poetry, miscellanies, and science; with a sprinkling of the best novels of Scott, Cooper, Goldsmith, Johnson, Richardson, Miss Burney, Miss Austen, &c. A list of suitable books will be found in the Appendix.

The district library may be supported as follows: Let the sum of forty, fifty, or sixty dollars, or more, be raised by subscription, or by a tax on *freehold* property, for the first commencement; and let it be supported and enlarged

by a tax on the scholar, or other inhabitants, at the following rates, viz.

For each person, over eight years of age, for every school-term of six months, or less, ... 25 cts.
For each child, under eight, ... 12½."

Every inhabitant of the district, whether attending school or not, to have the privilege of using the circulating library, by payment of the tax; but no books to be carried away by any one, till a bond from some responsible person was deposited in the hands of the librarian, for each person using them, to insure proper treatment, and the return of the books.

A deduction of twenty per cent. ought to be made, from the tax of those who own no real estate. The reason for this discrimination is, that the library will actually increase the value of all the real estate, the owners of which are, consequently, the most interested in the establishment. The tax should be made payable *in advance*.

The district teacher should be the librarian. She should inspect every book, carefully, that was brought into the library, and take a memorandum of any injury that accrued to the books, for which proper fines should be levied. The librarian should herself be responsible for injury done to the books used in the school, it being a part of her duty to teach the pupils how to use the books, and to see that they are properly taken care of.

The purchasing committees of the several districts in the town ought to meet, occasionally, to consult as to the purchase of books, and appoint one purchaser for the whole town; so that they might be procured at the lowest prices, and to prevent the same book being purchased for different libraries. Once a year, or oftener, they might meet, to make exchanges of books, by which each individual would have the privilege of using, at one time or another, all the books in town.

What an addition it would be to the happiness and welfare of society, were such establishments as these spread, universally, over our country! O, what a beautiful pros-

pect for the true patriot, to see the fireside of every peasant made cheerful by the delights of science; to find, every where, the long, dreary Winter evening transformed into a season of delightful mental recreation; to hear, in every cottage,

> "The poet or historian's page, by one
> Made vocal for the amusement of the rest,"

while the other members of the family were busily engaged in their various useful avocations. The storm, truly, might rage without; but within, would be a holy calm.

CHAPTER VII.

INTELLECTUAL EDUCATION, CONTINUED.

HAVING now, in imagination, erected our schoolhouse in a pleasant situation, remote from noise and dust, in a lot of sufficient size for exercise and amusement, neatly fenced, shaded, here and there, with clumps of trees, decorated with flowers, and furnished with accommodations for healthful gymnastics; having constructed the building of sufficient size and height, on correct principles as regards heat, air, and light; with seats and desks so as to place the pupils of every age perfectly at their ease; with a woodhouse large enough to contain fuel for the Winter, and ample room over and above for exercise for the scholars in bad weather; having provided an excellent library of books, for the school as well as for general circulation, slates and pencils for every pupil, however small; having made a good selection of a teacher, educated at an excellent teachers' seminary, who has engaged to devote her whole attention to the school, without limit, as to time; having established a correct system of discipline, founded on the best principles of human nature;—all that remains is, to point out the proper mode of carrying into effect the principles laid down in the teachers' seminary, in details sufficiently minute, especially so far as regards the

first steps, the foundation of education; fully persuaded, that, if this be well done, there is little danger of failure in the higher branches. Let us, then, commence with a young pupil, as ignorant of literature as the negro child in Central Africa, and proceed regularly with him, through most of the studies of the primary school. For the sake of perspicuity, we shall not follow the child backwards and forwards, from one study to another; but pursue each subject to its close, and then take up the next, and, when we have thus examined each subject, separately, close the subject by remarks on the order and arrangement of studies.

Reading and Orthography.

Worcester's Primer is an admirable little book for beginners. We shall use it, therefore, as our ***First Book***. Commencing with a child ignorant of his letters, we should turn to page 15, where we find pictures of a man, a cat, a hat, and a dog, opposite the corresponding names, in capitals, as well as in small letters. The teacher may commence thus:*

Teacher. What is that?

Child. A man.

T. That is the *picture* of a man. Would you not like to know the *word* man?

C. Yes.

T, (*pointing to the word.*) There it is. Look at it well, that you may know it, again. Now, do you think you shall know it?

To this question, the child generally answers, yes.

T, (*turning to page* 17.) Which of these words (pointing to Man, Dog, Cup) is Man?

Unless the child has been brought up in habits of attention by his parents, his heedlessness will be apparent, by his ignorance of the word. And this will generally be the case. So, turning back to page 15, the teacher can say,

* In order that what follows may be fully understood, the reader should have a copy of the Primer before him, and turn to the pages indicated.

T. You are wrong. See, it does not look like that. You should give more attention. Look at it again, (page 15, trace the form of the word with a pointer.) Are you sure you will know it now?

C. Yes.

Most children will now know the word. But a few will be found so heedless, as still not to have given *any* attention. With these, there will be some difficulty. But, as soon as their attention can be caught, the instant one word is known, the spell is broken, and all will go smooth. Persevere with the first word. If you cannot succeed in the first lesson, give him two, three, four. Have a little patience. In some favorable moment, you will gain his attention, and the difficulty, then, is over. Such is the testimony of many teachers.

One word is enough for the first lesson. And now comes an exercise, which must ALWAYS, *without one solitary exception*, follow reading. There must be no excuse for want of time. The teacher must *take* time, whatever else he may slight.

T. What have you been reading about?

C. About a man.

At the second lesson, see if he can still point out the word, man, (page 17.) If not, repeat, as before. But if he knows it, show him the next word, and say, that is cat. There is no occasion to make further use of pictures, for the present. Turning, again, to page 17,—

T. Which of these words (man, cat, hat) is cat?

When he knows this word, conclude, as before:

T. What have you been reading about to-day?

C. A cat.

T. Nothing else?

C. Yes, a man.

By a similar process, the other seven words will readily be learned by the child. But it is scarcely possible to repeat, too often, in this stage of education, that a minute examination of the child, as to what he has read, must be gone into, at the close of *every* lesson. No excuse can be admitted, unless the house be on fire, or tumbling about your ears. Should the teacher find there is not time, the

lessons may be made shorter, or fewer given per day. Three a week, with questioning, are of far more value than twenty without. The developement of the faculty of *attention*, the formation of a *habit*, is all important. If that be done *early*, there will be no difficulty in educating the child. It ought, then, to be commenced at the *first* lesson, and never, for a moment, be lost sight of, during the whole course of education.

Until our schools are completely reformed, as to reading, great care will be necessary, to prevent beginners from acquiring the prevailing bad habits. One of the most pernicious of these is, the practice of raising the voice at the end of every word, when they are separately pronounced, as by beginners. It is exceedingly difficult, not to say impossible, to *overcome* such habits, when fully formed; while nothing, but a little attention on the part of the teacher, is necessary to *prevent* their formation. Let, then, the attention of all the teachers of the primary school be wide awake on this subject. One hour, at the commencement, is worth days, weeks, months, at a later period. It is also highly important, that our little beginners pronounce the consonants full and strong, at the end of syllables and words; more especially, when they are doubled. The *r* requires particular attention. In such words as far, star, farm, barn, born, burn, &c., the usual practice is merely to lengthen the sound of the vowel, omitting the sound of the *r* altogether; and, in such words as mild, build, field, mind, the *d* is almost uniformly omitted by common readers and speakers. Let the teacher, then, take especial care of the consonant sounds. The vowels may be mispronounced, but can never be omitted. It is in the consonants, that articulation essentially consists. Webster, in his dictionary, uniformly calls them *articulations*. They may be said to form the thews and sinews of speech; and their distinct utterance, constitutes one of the chief distinctions between good and bad speakers. Sheridan says, that, "in several northern counties of England, there are scarce any of the inhabitants who can pronounce the letter *r* at all. Yet it would be strange to suppose, that all these people should have

been so unfortunately distinguished from other natives of this island, as to be born with any peculiar defect in their organs, when this matter is so plainly to be accounted for, upon the principle of imitation and habit." Yes: such defects, undoubtedly, do arise principally from imitation and habit. But the animal and intellectual temperament has also some connexion with this subject. "A sluggish action of the mind," says Dr. Porter, of Andover, "imparts a correspondent character to the action of the vocal organs, and makes speech only a succession of indolent, half-formed sounds, more resembling the muttering of a dream, than the clear articulation we ought to expect, in one who knows what he is saying. Excess of vivacity, on the other hand, or excess of sensibility, often produce a hasty, confused utterance. Delicacy speaks in a timid, feeble voice; and the fault of indistinctness is often aggravated in a bashful child, by the indiscreet chidings of his teacher, designed to push him into greater speed in spelling out his early lessons; while he has little familiarity with the form and sound, and less with the meaning, of words."

But to return to our Primer. In lesson 2d, pages 18, 19, will be found nine other words, to be learned as in lesson 1st, turning to page 20, to see if they are known.

Our pupil having thus acquired a small stock of words, it may here be proper to *commence* their *analysis*, by showing him, that each of these words is formed out of *three* characters, called *letters*, of which he should now learn the names. He may also be told, that these letters are of two kinds, capital and small letters, generally differing in shape. As it is useful to know the order of the alphabet, for consulting dictionaries, &c., it will be proper to teach letters in that order, taking care, however, always to show him the one he is acquiring in some *word*, as well as in the alphabet, and only learning *one* letter at a time. This exercise should not interfere with the *reading* lessons. These should still go on, so that he may daily add to his stock of words.

As soon as the child has become acquainted with the names of his letters, and this will generally be in a few

weeks,—for now that a child sees, distinctly, the use of books, he will rapidly acquire any knowledge connected with them; as soon as he knows his letters, then, a new exercise may be added to his lesson, namely, spelling some of the words that he has just read. The teacher, however, should be contented with his spelling them *on the book*, at first; afterwards getting him, by degrees, to try to remember their form, so as to spell without book. But this orthographical exercise must be kept entirely unconnected with reading. The absurd practice of spelling a word, in order to learn its pronunciation, must never be resorted to.

Nor should the child ever be allowed to *study out*, as it is called, but, more properly, *commit to memory*, his spelling lessons. The object should be to get the child into a *habit* of observing the form of words, *while reading*. If he attain this habit, and it is one of easy acquisition, he will be a correct speller; but, without it, although he should commit to memory the contents of all the spelling-books in existence, he never will. Any one, who doubts this, has only to inquire, how he became acquainted with the orthography of the terms of science, the various inflections of the nouns, pronouns, verbs, &c., and a vast number of proper names. From his spelling-book? Certainly not; very few of them are to be found there; but, simply, by having met with them in the course of his reading. Another still more unanswerable argument lies in the fact, that, in the study of foreign languages, we never think of resorting to this absurd practice, and we are very seldom at a loss for their orthography. In fact, it has been observed, that foreigners generally spell more correctly than natives, because they read the language with more attention, and never trouble themselves with spelling-books. When we come to speak of composition, another mode of improving in orthography will be developed.

In lesson 3d, page 23 of the Primer, the pupil is first introduced to short sentences; and here his *reading* properly commences. Each picture in this lesson is accompanied by two sentences, and some of the words con-

tained in the first, are repeated in the second. Accordingly, when the pupil has pronounced the words of the first sentence, after the teacher, he should be required to point out those *same words* in the line below; and, as soon as he knows all the words in both, the teacher should say,—

T. Now you have *named* the words. But this is not reading. Listen to me. I shall first *name* the words, and then *read* them: A—nice—fan. A *nice fan*, (the teacher reading the article *a*, rapidly, and the two emphatic words, slowly and forcibly.) This—is—a—nice—fan. *This* is a *nice fan*. (Here are three strongly emphatic words, and two that should be run over, rapidly and slightly.) Now do *you* name the words, and afterwards read them.

These two sentences are enough for a lesson. As soon as the pupil has read them properly, as well as can be done by a good reader, the teacher, closing the book, asks,

T. What have you been reading about?

C. A fan.

T. What sort of a fan?

C. A *nice* fan.

Before we pursue our lessons further, it will be proper to point out a few errors in pronunciation, which, owing to their producing an emphasis on the wrong word, are very injurious to good reading, more especially, as they are words of very frequent occurrence. The errors alluded to lie in the sound of the article, *a*; in the letter *h*, at the beginning of several of the pronouns, namely, *he*, *him*, *his*, and *her*; and their compounds, *himself*, *herself*, &c.; and the letter *y*, in the words *my* and *thy*.

A is either a *letter*, or an *article*. As the former, it is pronounced like *a* in *fate*; as the latter, like *a* in the second syllable of *liar*, *palace*, *rival*, *abbacy*; (see Worcester's 'Pronouncing Dictionary,' Boston, 1838.) Most speakers and readers, in New England, however, *intend* to pronounce the *word*, *a*, the same as the *letter*, *a*; but, so great is the inherent impropriety of giving the *long* sound to, and, of course, placing emphasis on, so insig-

nificant a word, that, whenever the speaker or reader is fully occupied with his subject, he is sure to pronounce it right; it being only *when he thinks of the pronunciation*, that he gives it the wrong sound. The consequence is, that bad, stiff speakers pronounce it uniformly; while good speakers pronounce it sometimes the one way and sometimes the other. The same remarks will apply to a large number of words compounded with *a*, such as *about*, *afraid*, *around*, *away*, &c., only that the error, in the compound words, lies rather in the accent, than in the emphasis. For, when we give the long instead of the obscure sound of *a* to these words, we necessarily accent both syllables, which is contrary to the genius of the English language, which admits but of one accent in dissyllables. The only exception given by orthoepists to this rule, is the word, *amen*; and this is, really, no exception, at all, as it is a Hebrew, not an English, word.*

Another error, with respect to the indefinite article, is this: The word was originally *one*, as may readily be perceived from the analogy of all the languages derived from the Latin, (*unus*, Latin; *un*, *une*, French; *uno*, *una*, Spanish; *hum*, *huma*, Portuguese; *un*, *una*, Italian.) Thence it was corrupted, or shortened, into *an*, the last letter of which is dropped, for the sake of euphony, when it is followed by a word having a *consonant sound* at the commencement. Hence, when the *h* is *not* pronounced, as in the words, *hour*, *honest*, the *n* should be retained; but, when it *is* pronounced, as in *hair* and *hat*, the *n* should be dropped. Unfortunately, most printers, to whom such affairs are generally intrusted by authors, unable to discriminate, or unwilling to take the trouble, have retained the *n* in *all* cases before the *h*. The consequence is, that bad readers, and they are more than ten to one, pronounce the *n*, whether the *h* is silent or not, because they find it printed so, calling it *an* house, instead of *a* house; *an* hair, instead of *a* hair, &c. The same remark applies to the word *one*, pronounced *wun*; *union*, pronounced *yuneyun*, and other similar cases, where the *n*

* The obscure sound of all the vowels is precisely the same: as liar, brier, irregular, idol, sulphur, truly.

should be dropped, for the sake of euphony. All these originate in the same manner as the former; simply by the printer discriminating by his *eye*, in place of his *ear*. They ought to be printed and read, *such a one*; *a union*; *a useful man*, &c. A somewhat similar error occurs in most of our English Bibles, and is copied by many of the ministers in their pulpits, but nowhere else. In old times, before politeness introduced the use of *you* and *your* in place of *thee* and *thy*, the words *mine* and *thine* were used, for the sake of euphony, in place of *my* and *thy*, when the following word commenced with a *vowel sound*. Hence, in the Bible, we have *my* people, *mine* ear; *my* son, *mine* eye; consequently, we should also have *my* house, *my* heart, *mine* honor, *mine* heir. But, the printers having committed the same blunder here, we have *mine* house and *mine* heart, for *my* house and *my* heart; and this error in typography leads to the same error in pronunciation as was noticed respecting *an* house, *an* hat.

The next error, to be noticed, relates to the pronunciation of the letter *h*, in certain cases. *H* is an anomaly among letters, being neither vowel nor consonant, but simply, as Webster observes, "the mark of a *stronger breathing*, than that which precedes the utterance of any other letter." It never can be sounded without some degree of emphasis; hence, although orthoepists have given no rule on the subject, no good reader or speaker ever pronounces it in the personal pronouns mentioned above, unless they are emphatic words in the sentence. This will be at once perceived, by reading aloud the following lines, when it will be found, that the *h* is pronounced in the words printed in small capitals, but *not* in those which are in the Italic character, and with an apostrophe (') placed before them.

If HE command, who dares oppose?
Wide as '*he* spreads '*his* golden flame.
To HIM who washed us in '*his* blood.
Behold '*him* present with '*his* aid.
Were but our hearts prepared like HIS.
HE sent '*his* son with power to save.

With respect to the demonstrative pronouns, it may be observed, generally, that poor readers and speakers pronounce them, uniformly, with too much emphasis, so as frequently to change the sense.

The words *thy* and *my*, should have the long sound of *i*, when emphatic ; on other occasions, its obscure sound.

The following words, and their compounds, are almost uniformly pronounced properly in conversation, and improperly in reading : hasten, chasten, fasten, listen, glisten, christen, moisten ; castle, nestle, trestle, wrestle, thistle, whistle, epistle, bristle, gristle, jostle, apostle, throstle, bustle, justle, rustle ; in all of which the *t* should be omitted in pronunciation ; and in the word clothes, the *th* should be omitted. An innovation has lately been introduced, in some parts of New England, in the accentuation of the word *legislature*, by laying the stress on the *second* syllable, which is believed to be entirely devoid of respectable authority. Sheridan, Walker, Jones, Enfield, Fulton and Knight, Jameson, Webster, and Worcester, all place the accent on the *first* syllable, and Perry on the third. Such innovations should be discountenanced by every good speaker, as leading to interminable confusion.

The above remarks are intended for the use of the teacher. As they all relate to unnatural, *acquired* errors, a very slight degree of care, on his part, will prevent their being copied by beginners ; but some pains will be necessary, to break the older pupils of their bad habits in this respect. These errors would not have been noticed here, had the writer been able to refer to any book where they have been pointed out : but, unfortunately, they seem to have been totally overlooked ; and it was thought wrong to omit them, as they essentially interfere with good reading.

There are many other errors or imperfections in reading, not even alluded to by authors treating of this subject ; but, unfortunately, most of them are only capable of being exemplified in a proper manner orally. It is to be hoped, however, that, before long, teachers' seminaries will be established, where this, and other serious errors *in teaching*, will be fully rectified. Meanwhile,

we shall close this part of our subject, by noticing two prominent imperfections in readers, generally.

The first is, the neglect of proper pauses at the stops. The directions, generally given in schools, are, to stop at a comma as long as we can count *one*; at a semicolon, so long as to count *two*; a colon, *three*; a period, *four*. The two last are, evidently, too much. Perhaps a better rule would be, at a comma, one; at a semicolon, colon, or period, two; at the end of a paragraph, or change of subject, four. But this, though not much more than half the length of the pauses generally directed, is longer than is ever practised. Most readers make *no stop at all*, at either comma, semicolon, or colon; they merely lengthen the sound of the last syllable, and they stop not longer than to count one at a period. In this manner, the words and ideas become so huddled together, that it is very difficult to follow, and catch the sense. The teacher ought to insist on a complete *cessation of sound* at a comma, a cessation of double the length at the other points, and this, again, to be doubled, on a change of subject.

The other defect to be noticed, is the want of sufficient *variety* of expression. There is too much sameness in the *degree*, both of force and of rapidity. The emphatic words should be pronounced strong and slow, and the other words softly and rapidly. Language is made up of words and syllables; and these syllables, like notes in music, are of all possible lengths. It is a rude and incorrect distinction, which the Latin readers have made, in classifying them merely into long and short. The word *all*, in length of sound, may be represented by a minim, the longest note in modern music; but the word *indivisible*, though composed of five syllables, should be spoken in a time equally short; consequently, each syllable, in the latter word, is only one fifth of the length of the monosyllable. If we inspect the fine adagios of Haydn and Beethoven, we shall find them composed of sounds, varying in length, from the slowest note to those of the greatest quickness; and if we examine a speech of Shakspeare and Milton, we shall find them also composed of words *ponderous* and *slow*, mingled with particles and

syllables of great rapidity. The strong expressions, properly sustained by the voice, invariably convey the sense. The smaller words, the mere links of language, should be driven together. This subject cannot easily be exemplified in writing; but, in general terms, it may be said, that the reading in schools would be much improved, if the force of the emphasis were at least doubled, and the rapidity of the other words also at least doubled.

Having thus pointed out some of the principal errors *to be avoided* in reading, we are now prepared to resume our lessons in Worcester's Primer. As the vocabulary of the pupil extends, so should the proportionate length of his lesson. For some little time, he will have to be told how to pronounce every new word; but he will soon acquire, of himself, correct notions of the powers of the letters, which will enable him to find them out, himself. The teacher may aid him in this, by uttering the sound of the *power* (not the *name*) of the letter, at the beginning of the word, about which he is at a loss. For instance; suppose he did not know the word *cross*. The teacher might give the sound *cr* or *cro*. When he comes to words of more than one syllable, he may be assisted, by covering the second syllable till he had pronounced the first, &c. But, on no account, should a child be directed or allowed to *spell* a word, in order to ascertain its pronunciation. The folly of this practice has been fully shown, in Part I. Chapter V., which see. When a child has been stopped for a word, he ought to read the sentence over again, so that he may not lose the idea; and the teacher ought to keep steadily in mind, that the *sine qua non*, the grand object of the school, is to teach the child to connect words with ideas.

There is considerable inconvenience in forming children into classes, until they can read with some degree of fluency; but, if the teacher is much pressed for time, he can collect half a dozen little ones round him, though he ought, perhaps, to give lessons to each separately.

After the pupil has gone through the Primer, his lessons, for a day or two, may consist of examining the *pictures*, separately, and telling his teacher what was said

about this, what about that. An excellent exercise, too, for giving him a command of language, and improving his power of *observation*, would be, to make him explain all the larger prints, and point out what was on the foreground, what on the background, the right, the left, &c., requiring him to mention the most minute particulars.

If he is found to be well acquainted with the book, which will generally be the case on the first reading, if the teacher has done him justice, he should now begin a new one. The author of the Primer has furnished an excellent series of books; but, unfortunately, when the child has gone through the first, he is not yet prepared to take up the second. And this is a defect attached to every series we have seen. The next books in order, then, should be, the 'Easy Primer,' (printed by Merriam, Springfield,) the 'Franklin Primer,' the 'Columbian Primer,' Gallaudet's 'Picture Defining Book,' 'Juvenile Lessons,' or any other books containing short and easy sentences, suited to infantile capacity.* Works on geography, history, &c., (see Chapter I.,) may follow. Pushing a child forward, faster than he is prepared to go, is a serious evil, in all our schools; more especially, in reading. If he is put into long sentences before he can read short ones, fluently, he must give so much attention to the pronunciation, that he has none to bestow on the sense. But, while this evil must be sedulously avoided, the child must not be kept reading the same book over and over. This, truly, would be avoiding Scylla to fall on Charybdis. During the first year, he should read a number of books of nearly the same grade, till his vocabulary has become sufficiently extensive to enable him to read *long* sentences with tolerable ease, on the first trial. The school library will afford this variety, without additional expense to the parent.

There is a danger attendant on the use of the improved

* 'The Little Philosopher,' by Jacob Abbot, is an excellent reading book, after the 'Juvenile Lessons.' Let the class read the questions, by turns, and the teacher, after the reading of each question, indicate what child shall give the answer; which should be done as rapidly as possible. Let the large print be read through first, reserving the small print to a second reading, or review.

first books, which teachers should be careful to avoid, else it may be productive of bad consequences. The books are so interesting to children, that they listen to their schoolmates' reading, and thus, sometimes, get familiar with the sentences and stories, before they can read them, insomuch that, by the help of the attendant picture, or a knowledge of only the first word, they go fluently through their lessons, as if they were reading them, when, in fact, they know little more than the first word of the sentence or story. This, however, can easily be discovered, by asking them words out of the middle of the sentences, or occasionally making them read a sentence backwards. The evil can never attain any head with an attentive teacher, especially after having been warned of the danger.

After reading a little geography and history, *newspapers* would afford admirable lessons for the reading classes. These might, no doubt, be procured from the parents, without charge ; and, when there was only one of a kind, the children might read by turns, or pass it from hand to hand. Every part might be read, and every part might furnish a useful lesson. Let us examine the first that comes to hand, which proves to be one from Philadelphia. Here we find various advertisements of different *lines* from Philadelphia to Pittsburg, which might give rise to interesting descriptions of canals and railways, and of a country, two hundred miles of which was a wilderness, traversed only by packhorses, less than forty years ago. These advertisements are followed by a broker's call for small notes, or shinplasters, sales of raisins, of wine, looking-glasses, whips, buffalo robes, spectacles, cedar-ware, anthracite, cabinet furniture, hats, *macaroni*, nails and spikes, Bordeaux almonds, stoves, &c. ; notices of companies for insurance on lives, fire insurance companies, exchange offices, loan companies, coal companies ; lectures on phrenology, 'on the Augustan age,' 'on the life and writings of Shakspeare,' 'on the cause of storms ;' balls, concerts, theatres, soup-house tickets, auctions, houses and farms for sale, &c. ; with quack medicines, for the certain cure of

every disorder incident to man, except vice, old age, and death. Leaving the advertisements, we have political remarks and discussions, legislative proceedings, news from Texas, accounts of war and revolution in Mexico, discussions on free banking, accounts of a dreadful inundation, reviews of new books, sales of stocks, a list of letter-bags at the Exchange, and, lastly, a list of marriages and deaths. What a fine scope would here be presented, for questions and discussions by the pupils, and explanations by the teacher! What an opportunity for practical illustrations of geography and history! And could a fitter time ever occur, for impressing on the mind of the pupil the necessity, of receiving all political disquisitions with caution; of always remembering the motto, *Audi alteram partem?** an impression, which might be much strengthened, by having papers on different sides of the great political question, which can probably be procured in every town. One newspaper, one single sheet, might afford interesting subjects for inquiry and discussion for a school, for months. How many books might these readings cause to be searched, which might, otherwise, have lain closed! What expansion of mind, in the little world of school, by the proper review of the newspaper!

> "This folio of four pages, happy work!
> Which not even critics criticise,—
> What is it, but a map of busy life,
> Its fluctuations, and its vast concerns?" — *Cowper.*

The reflections, which it excites in the mind of the amiable poet, are so appropriate, that a quotation from them may, perhaps, be pardoned.

> "'T is pleasant, *through the loopholes* of retreat,
> To peep at such a world; to see the stir
> Of the great Babel, and not feel the crowd;
> To hear the roar she sends through all her gates,
> At a safe distance, where the dying sound
> Falls, a soft murmur, on th' uninjured ear.
> Thus sitting, and surveying thus, at ease,
> The globe and its concerns, I seem advanced

* Hear the other side.

To some secure and more than mortal height,
That liberates and exempts me from them all.
It turns, submitted to my view, turns round,
With all its generations ; I behold
The tumult, and am still. The sound of war
Has lost its terrors ere it reaches me ;
Grieves, but alarms me not. I mourn the pride
And avarice, that make man a wolf to man ;
Hear the faint echo of those brazen throats,
By which he speaks the language of his heart,
And sigh, but never tremble at the sound.
He* travels and expatiates ; as the bee,
From flower to flower, so he, from land to land ;
The manners, custom, policy, of all,
Pay contribution to the store he gleans ;
He sucks intelligence in every clime,
And spreads the honey of his deep research,
At his return,—a rich repast for me.
He travels, and I too. I tread his deck,
Ascend his topmast, through his peering eye
Discover countries ; with a kindred heart
Suffer his woes, and share in his escapes ;
While Fancy, like the finger of a clock,
Runs the great circuit, and is still at home."†

Before leaving the subject of reading, let us urge, once more, on the teacher, the importance of allowing *nothing* to be read in school, without requiring a full account of it from the class. At first, this may be educed by questions ; but, as soon as possible, the child should be led, by degrees, to give an account of his reading, without this aid. And, where questions *are* used, great care must be taken to avoid leading ones, such as, "Was Jane a good girl ? Did she want some plums ?" instead of, "What kind of a girl was Jane ?" or, "What was said of Jane ?" Let there also be questions relating to the general train of thought, and to topics growing out of it. Let there be questions which will lead the little logician to the exercise of his reflecting and reasoning powers, and to the developement of his moral feelings. Great care must be taken, to prevent *guessing* at answers. The children should be made to understand, that they must not attempt to answer, unless they have a distinct recollection of the subject. By the use of leading ques-

* The editor. † '*Task*,' Book iv. l. 88, &c.

tions, and by allowing guessing, some teachers have suffered this most admirable discipline for the mind to degenerate into a *mere form*. The use of books with *printed* questions is also apt to produce evil effects, unless care is taken by the teacher. For, sometimes, a pupil will select the words of the book furnishing the answers, and commit them to memory, and thus appear fully master of a subject, of which he is profoundly ignorant. In order to keep the attention of the whole class wide awake, it will be proper, *first* to give the question, and *then* to name the pupil who is to answer; letting it be always understood, also, that each child is liable to be called on, any number of times, and must always be ready.

Terms should be explained to children in a way suited to their capacity, not by formal definitions, or by synonymous expressions. This last is merely the substitution of one word for another; and, very frequently, the last is more unintelligible than the first, and, besides, creates the habit of resting satisfied with mere sounds, instead of ideas. But the explanation should be given by going back to simple, elementary truths, and by illustrations, drawn from objects and events with which they are familiar.* But the child himself should be called on, for the signification of words and phrases in the lesson; and he should be accustomed to examine the context for their meaning. He should also be required to give his

* I called, one day, at the parsonage, with a neighbor of ours, a Mrs. Moodey. After a pause, "Mr. Pottle," said she to the minister, "I am almost ashamed to confess my ignorance, but you said something, in your last discourse, which I did not exactly understand." "Well, madam," said he, with a loud voice and a stern expression, "and pray what was it?" "O, dear sir," she replied, evidently confounded by his manner, "I do n't doubt, in the least, that it was owing to my weak understanding; but you said, sir,—speaking of the wiles of Satan,—'*as if as though to circumvent thee.*'" "Oh,—ah,—yes, Mrs. Moodey," he answered, "I well remember that expression. The meaning of those words, madam," raising his voice to a terrible pitch, and striking his hand violently upon the table, "the meaning of those words is this, Mrs. Moodey,—AS IF AS THOUGH TO CIRCUMVENT THEE!" "Oh, dear me, parson Pottle," cried Mrs. Moodey, with a trembling voice, "how very clear you make it now!"—'*Temperance Tales*,' Vol. v. p. 115.

opinions about matters of fact, the object of actions mentioned, and the thing settled by any chain of reasoning.

It is not to be expected, that all the teachers, into whose hands this book may fall, will *believe* in the practicability of this mode of teaching reading; and some may probably carry their incredulity so far, as not even to be willing to give it a trial. These last, however, it is believed, may find useful suggestions, even after discarding, entirely, the new mode of teaching; and it is to be hoped, that prejudice will not induce them to reject all, because a part does not accord with their views. To those who are willing to give it a trial, we would say, let it be a fair trial; be sure that it is perfectly understood, and that the course pointed out be followed exactly, and we have no fears for the result; for the experiment has repeatedly succeeded, even under circumstances by no means favorable. And let it never be forgotten, that, although the progress of the child is much more rapid than by the old method, this is a matter of but secondary importance. It is in the *avoidance of the bad habits*, engendered by the synthetic course, that its chief merit consists. It is because the child sees the value and use of his daily acquisitions immediately; because he unites sense with sound *from the very first*, that a trial is so urgently pressed upon the teacher. Let a fair trial be given, then, and, above all, let there be a hope, a desire, of success.

The spelling lessons should be regularly continued after the reading, the teacher selecting suitable words out of the chapter read, until the pupils can write compositions of some length, when they may be discontinued altogether, as writing is by far the surest mode of acquiring a knowledge of orthography.

There are so many anomalies in the English language, that rules for pronunciation are not generally of much service to young students. There are two, however, of such extensive application, that it will be well for the teacher, occasionally, to exemplify them on the blackboard, as an exercise for his pupils.

1. The vowels at the end of a syllable have the sound from which they are named ; namely,

Ba, Be, Bi, Bo, Bu.

But, when the vowels are followed by a consonant, their sound is changed, and becomes short ; as,

Bat, Bet, Bit, Bot, But.

The original sound is restored, by placing an *e* after the consonant ; as,

Bate, Bete, Bite, Bote, Bute.

Y, when a vowel, has precisely the sound of *i*, under similar circumstances ; as,

By, Byt, Byte.

2. *C* and *G* have two sounds, the one hard, the other soft. They are soft before *e*, and *i*, and *y* ; in every other situation, they are hard ; as,

Car, *Cent*, *Cit*, Cot, Cut, *Cynthia*, Music.

Gas, *Gentle*, *Gin*, Gone, Gun, *Gymnastics*, Hog.

There are numerous exceptions to the second rule ; but, as these occur only in familiar words, the pupil is not likely to go astray.

Teacher. What is the use of the two *e*'s in George ? and the *u*, in guest and guilt ? Pronounce the following words,—gybe, gypsum, nys.

Writing.

There are various modes of teaching writing, between which there is probably little matter for choice. We shall present one, for the convenience of the teacher, without insisting that it is the best ; though we know it will make good writers, if properly taught, at the proper time.

Every child should be shown how to hold and move his pencil, and how to sit at his desk, while writing, as soon as he enters school. The body should have a regular slope, from the seat to the crown of the head ; *no bend*. The seat should be so far back, as to allow of this position. The left arm should rest on the desk. The right should also rest on a point a little below the elbow, the little finger slightly touching the desk, but not

pressing on it. The pen and pencil should lie on the second finger, and be held, not too firmly, by that finger and the thumb. The forefinger should rest on the pen or pencil, to keep it steady. The two fingers should be extended their full length; the thumb a little bent. The fingers and thumb should be kept steadily in that position, the motions being all made with the forearm. The downward motions should all be parallel. One of the greatest faults in writing is the carrying the downward motions in different directions. The ends of the *r*, *o*, *v*, and *w*, should not descend, lest they degenerate, as they are very apt to do, with rapid writers, into *n*, *a*, and *u*. For the first week or two, the teacher, standing or sitting where he can see all the writers, should keep a constant eye upon them, to see that all the positions and movements are steadily kept. If this is done, those of the class, who have acquired no bad habits from previous use of the pen or pencil, will soon write well.

The first beauty in writing is *legibility*. Every thing should give way to this. Flourishes may be useful, in giving freedom of hand, but they should be practised by themselves, and never introduced into writing, least of all when writing a signature. The plainer the writing, the more difficult to counterfeit it. Besides, if the name be illegible, we have no clue wherewith to decipher it. For other words, we have the context. In proper names, we have nothing. A merchant in Boston lately returned to the post-office a letter, containing an order for goods. The signature was so *elegantly* written, as to be quite illegible. The same remark applies to figures. If each character is not plain, we have no means of ascertaining the amount. Hence, it should be considered a rule, from which not the slightest deviation should be allowed, that figures and proper names MUST be written plain.

The second beauty, in writing, is the getting as much within a small compass, as comports with legibility. No one can read with ease, unless his eye can comprehend the longest word, or several short ones, at a glance. Therefore, although it may be permissible to write loosely until the pupil can write fluently, he should begin to draw together his letters as soon as possible.

The pupil should not be made to write too slow. It is easier to write moderately fast; and it is desirable to write a rapid hand as soon as possible. Care should be taken, however, not to run into extremes in this point. Indeed, if the pupil is never allowed to contract bad habits as to sitting, and as to holding and moving the pen, there is no fear but what he will soon be a rapid writer. But almost every thing depends on commencing right.

Drawing.

Drawing should be taught simultaneously with writing; that is, as soon as the pupil can hold a pencil. It should be practised, at first, on the slate, on which the very youngest child may be usefully employed, in forming vertical, horizontal, and oblique lines, triangles, squares, rectangles, &c. Then might follow the division of these lines, by the eye, into two, three, four, five, six, &c., parts. The pencil should be held in the same manner as the pen. While the pupils use slate-pencils, they should have quills or tin tubes, as holders, and their pencils should be sharp enough to make fine lines.

As soon as the child can draw straight lines, join them neatly together, and divide them, by the eye, into any given number of equal parts, he should commence drawing natural objects from some book. In 'Parley's Magazine,' vols. vi. and vii., will be found excellent directions, and a great variety of suitable objects. By the use of these, the teacher may instruct the young pupils, though she herself have no practical knowledge of the subject. But, as it is very desirable she should possess the practical, as well as theoretical, knowledge, she ought to teach herself, at the same time she is giving lessons to others.

The great object, however, should be, to enable the pupils to draw from Nature; and the following will probably be found one of the easiest modes of commencing such a practice. Let the pupil be seated at a table, directly before a window commanding a prospect of some suitable objects for drawing, such as a house or barn, with trees, fences, &c. The seat should be at such a distance from the window, that a sufficient number of

objects to form a picture, may be seen through one pane, the sky filling one third or one half of it. The pupil should now be told to consider the pane as a picture, placed before him to copy ; and let him use his best endeavors, to make a correct transcript of it on his slate or paper. At first, it would very much facilitate his operations, if three, four, or five threads were fastened horizontally, and as many vertically, across the pane, at equal distances, thus dividing it into nine, sixteen, or twenty-five squares, or rectangles. His slate or paper should be ruled with lines, representing that part of the sash around the pane. The *first* time he attempts such a drawing, perhaps it would be well to divide his slate or paper into squares, or rectangles, corresponding to those of the pane. When every suitable object, that can conveniently be seen from the windows, has been copied, his table can be placed in the fields, and a small frame placed on it, to represent the pane. All such artificial aid should, however, soon be laid aside, and the pupil accustomed to rely on his eye alone, without other assistance than a piece of pasteboard on his hat or his knee.

The chief difficulty, in drawing from Nature, lies in the fact, that we see things neither in their true situation, nor form, nor proportionate size. The appearance of the landscape is chiefly the work of our own imagination. Take, for instance, the *size* of an object. If we look at a house, about half a mile off, and when we turn away, some one ask, how big it appeared to us, compared to some object in the room, the answer will be very wide, indeed, of the truth. If again, we were asked, " Did the house appear as large as your thumb nail, held at arm's length ?" we should be apt to laugh, heartily, at the absurdity of the question ; and yet, in fact, it would fall short of the reality ; for, if the thumb were held in that position, and so as to appear at the side of a moderate-sized house, we should find that, in reality, the nail appeared much the largest. As another instance, take the *form* of an object. The appearance which a cylinder really presents to us, is that of a plane rectangle ; and the reason why it appears to us a cylinder, is *our knowledge*, acquir-

ed by the sense of *feeling*, that all *apparent* rectangles, *shaded* in that peculiar manner, are, in fact, cylinders. These facts should be pointed out to the pupil; and he should be told, that, in order to draw correctly, he must accustom his eye to see things as they are presented to it by Nature; that is, as the infant sees them.

When the child is expert in linear drawing, he may be taught shading; but perhaps this is too much to ask from the primary school, and may be postponed till he enters the central school. The primary teacher ought, however, by all means, to point out to her pupils the effects of shade in Nature, directing their attention, with that view, to stove-pipes, the outside of houses, trees, woods, clouds, &c.

If possible, this study should be carried forward in the central school, either by a regular drawing-master, or by the aid of books. But, even if it should not, the pupils will never regret the time spent in its practice in the primary school. Linear drawing is indispensable to many professions and trades, and highly useful in many others; and it would, if generally disseminated, be a powerful means of increasing the innocent enjoyments, good feelings, and good taste, of a community. As one of the means of preserving good discipline in a young family, it is invaluable. All children have more or less taste for it; and, if encouraged by a few instructions in school, it would provide interesting and quiet occupation for young children, in bad weather, in the evening, and at other seasons, whereby the idleness, mischief, and unseasonable noise and rudeness, which create so many bad feelings in families, might be much abated. In addition to its direct advantages, drawing is indirectly useful, by the discipline it gives to the eye, hand, powers of observation, memory, invention, and taste, and, in some degree, to the other mental faculties.

Elocution and Composition.

These branches of education are classed together, on account of their intimate connexion, as school studies, as well as by Nature. In both, the principal requisite is a

mind well stored with ideas, not in a confused mass, but arranged in symmetry and order. Their difference lies, chiefly, in their manner of expression; the one being oral, the other by writing.

These important studies have hitherto been sadly neglected in our schools. They have, it is true, received some attention in our higher seminaries; but, as has already been remarked of some other studies, this attention comes at too late a period. Superior minds, undoubtedly, will force their way, in spite of every impediment; but, of the great mass, who delay the cultivation of the talent of expressing their thoughts with effect, either by the tongue or the pen, till after the age of twelve or fourteen, few, very few, indeed, will ever attain proficiency. Is this a desirable state of things? In every country, the power of expressing one's-self, with force and perspicuity, ought to be considered as an essential in a liberal education. Without it, a man is a mere cipher in society. But, in *our* country, we should look for more than this. For every man ought to prepare himself for taking a part in her public business. Even should he never aspire to a seat in her State or National councils, he owes it as a duty to himself and to his country, to let any talent he may possess appear, at least, in her primary assemblies. Yet, for want of the general cultivation of this talent, the whole legislative business of the country is abandoned to those whose pursuits make them talkers by profession; and who, in the habit of arguing, with equal interest, upon the wrong as upon the right side, lose the nice discrimination which ought to be the attribute of the statesman. This is not meant as any disparagement to the conduct of the profession. It would be a monstrous evil, were lawyers to assume a right to decide upon the justice of a cause before a hearing, and to refuse to undertake the defence of those whom *they* did not think were in the right. No! this is the prerogative of the judge and jury; and a lawyer is bound to present his client's cause in as fair a light as the nature of things will allow. But, independent of the evil habit of long talking, the very fact, that it is the duty of their profes-

sion to seek for arguments on one side only, and that not always the strongest, disqualifies them, in a considerable degree, from being enlightened legislators. Their technical knowledge is, undoubtedly, indispensable in the halls of legislation, and will always secure them a strong influence there; but it will be a manifest improvement, when the profession shall be confined to a due and proper share in the representation of the country. If, then, we would shorten the extravagant length of our legislative debates; if we would enable every man, who has an original or useful thought, to bring it forward for the benefit of his country, with brevity, force, and perspicuity, let us use our best endeavors to spread these important gifts, generally, through the community; and, to effect this, they must be cultivated in our primary schools.

The process of teaching elocution and composition may be commenced as follows: Let the teacher write a *noun* on the blackboard, say, for instance, the word *man*; and let every child in school be directed to form a sentence with it, or, at least, to say something about it, telling them to say something different every time, and not to use the words or ideas of those who precede them in the exercise. Choose two or three of the brightest-looking children to commence; but, if all seem at a loss, the teacher may give a few examples, thus: The larger children may make sentences like these,—I saw a *man*, dressed in black, walk past the schoolhouse, yesterday; the *man* that lives in the brick house is very sick. The smaller children can say,—A tall *man*; a poor *man*; a black *man*; a good *man*, &c. This exercise should be pursued every day, taking care, not to repeat the same word for the subject, and carrying the whole school steadily forward, by slow degrees, but always *forward*, from simple to compound, from shorter to longer sentences. When the pupils have become familiar with exercises on nouns, adjectives may be chosen as subjects, such as good, bad, industrious, lazy, &c. These will be found to require more thought to produce a variety; and it may be found necessary to give out two or three in one exercise. Sentences formed from pronouns, verbs, adverbs,

&c., may follow. Meanwhile, the teacher should carefully study Town's 'Analysis of Derivative Words,' and become as familiar as possible with its principles, preparatory to introducing it into school. Parker's 'Progressive Exercises in English Composition' should also be examined with the same view. A copy of each of these books should be procured by the committee, for the use of the school; and, when the teacher has sufficiently studied them, a part of both may be written on the blackboard, and commented on every day, and exercises given out for the students. But the teacher should not rely altogether on printed books. The book of Nature is always open, and the pupils should be accustomed to draw, liberally, from that inexhaustible source. Let their powers of description be exerted on the objects around. Let them be led to view Nature with the eye of a poet and a painter. Let them be encouraged to think and talk of the grandeur of the heavens, now illumined by the dazzling beams of the King of Day, now by the milder rays of the Queen of Night, surrounded by her thousand sparkling attendants; at one time dazzling us by the splendid hues of morning and evening; at another, delighting us with the mildness of the azure, or the ever-changing hues and forms of the clouds in a Summer's day. Point out to them the ever-varying, ever-beautiful foliage of the forest, whether arising from the mild zephyrs of Spring, the fervid heats of Summer, the cool evenings of Autumn, or the biting frosts of Winter. And direct the attention to the sublimity of our mountain scenery, and the softer beauty of the plain, checkered by the hand of industry, and fertilized by the meandering river.

It is scarcely necessary to observe, that all these exercises in elocution will be performed with equal ease and grace, because they will be without effort, and because they will have been acquired almost unconsciously. Paint to yourself our little pupils, collected around their teacher, expressing their simple thoughts in earnest but correct language, and compare this scene with that of a boy of fourteen or sixteen, called on to stand, for the first time, on the floor, to recite some piece, on which he has labored

for days or weeks. Can there be a greater contrast, of stiffness and ease, of awkwardness and grace?

Occasional walks with the teacher will be useful in furnishing topics. Sometimes the woods may be visited, and the attention of the school directed to the sweet music and gay plumage of the feathered race, to the beautiful vistas formed by the trees, the graceful arching of the tops, waving in the breeze;

> "While, beneath,
> The *checkered earth* seems restless, as a flood
> Brush'd by the wind."

At other times, the walk may lie along the course of the brook or river, where the willow dips its pendant boughs, and the rapid trout glides swiftly. Or it may rise the hill, to survey the beauties of an extended prospect.

These walks should also be improved by the collection of botanical and mineralogical specimens, of which more in its proper place.

The mill, the manufactory, and the shop of the mechanic, will also form profitable places of occasional resort; but leave should always be previously obtained for such visits, and the assistance of the proprietor requested, to explain the various machinery and operations. Such walks will form an abundant resource for topics, both of discourse and composition.

It is important, that all expressions indicating gloom and discontent should be discouraged, and an opposite spirit developed and fostered. The terms *gloomy weather, disagreeable season of the year*, &c., should be shown to be inappropriate, ungrateful, and productive of discontent and misery. It should be explained to the pupils, that, to the eye of intelligence, the bounty and goodness of God is alike conspicuous, in all seasons, and in all places; in the rain, as well as in the sunshine; in the storm, as well as in the calm. It has been well observed, that "It is the *mind* that maketh well or ill. The elements of pain and pleasure are every where. A contented disposition can derive pleasure from almost every thing; a discontented temper from nothing; but is always busy in detecting deficiences, and feeding dissatisfaction with com-

parisons. The one gathers all the flowers, the other, all the nettles, in his path. The one realizes all the pleasure of the present good, the other converts it into pain, by pining after something better, which is only better because it is not present, and which, if it were present, would not be enjoyed." The celebrated *Boz* observes, that "Men who look on Nature and their fellow-men, and cry that all is dark and gloomy, are in the right; but the *sombre* colors are reflected from *their own jaundiced eyes and hearts.* The real hues are delicate, and require a clearer vision."

There is another class of these grumblers, who make themselves and all around them wretched, because they conceive that gloom renders them *interesting*. All such ought to be laughed out of their folly, as soon as it appears.

The little pupils should be encouraged, whenever they differ in opinion from any sentiment advanced, to give the reasons for their dissent, with politeness, but with perfect freedom. It is not thought advisable, however, to recommend the institution of debates, with the previous appointment of individuals to different sides. Such exercises are apt to degenerate into a struggle for victory, rather than a search for truth. Our youth should be educated for judges, not for advocates. They ought distinctly to understand, that almost every sentiment and opinion has, at least, two sides from which it may be viewed; that the one is generally good, till the other has been heard; and that it is alike their *duty* and *interest*, to examine subjects *for themselves* in *every* point of view.

What has as yet been advanced, on this subject, may be thought, perhaps, chiefly to relate to elocution; but the fact is, that nearly all of it applies equally to composition. What has been spoken may also be written; and there will be little or no difficulty, if we commence at the proper time and place. Nearly all the difficulties in education arise from commencing *in the middle*, or at the *wrong end*. As soon, then, as the child can form and join his letters, let him commence the practice of composition, and follow it up steadily as long as he remains in school. Few are aware how improvable is the faculty of expressing thoughts upon paper. The gigantic increase

of the muscles in a blacksmith's arm, from his wielding the hammer so frequently; the proverbial strength of the memory, by exercise; or the miraculous sleight which the juggler acquires, by practice, with his cup and balls; is not more certain, than that he, who daily habituates himself to writing down his ideas with what ease, accuracy, and elegance, he can, will find his improvement advance, with hardly any assignable limit. Nor will his style, only, improve. It is a hackneyed truth, that, "in learning to *write* with accuracy and precision, we learn to *think* with accuracy and precision." Besides this, the store of thought is, in a twofold way, enlarged. By the action of the mind, in turning over, analyzing, and comparing, its ideas, they are incalculably multiplied. And the researches, prompted by the desire to write understandingly upon each subject, are constantly widening and deepening the bounds of knowledge. Thus, whether a person wishes to enrich and invigorate his own mind, or to act with power on the minds of others, we say to him, *Write!*

Elocution and composition have an intimate connexion and mutual bearing on each other. It has been said, that "reading makes a full man; speaking, a ready man; and writing, an exact man." All are necessary to constitute the well-educated man.

Before concluding this subject, it should be mentioned, that the inditing of letters to parents, teachers, brothers and sisters, and companions, should be added to the numerous topics for composition already mentioned.

CHAPTER VIII.

INTELLECTUAL EDUCATION, CONTINUED.

Arithmetic.

THE error, that has been so repeatedly noticed, again appears here. The study is commenced too late. Very young children can readily understand, not only concrete,

but abstract, numbers. Indeed, it will be found, that, within certain limits, the effort is much less in young than in older children; that is, of three boys of equal capacity, who know little or nothing of numbers, one of six, the others of eight and ten, years of age, their progress will be more nearly inversely, than directly, as their respective ages. In our improved schools, then, let mental arithmetic be commenced simultaneously with reading, which last, indeed, is an object of much more difficult attainment than the first.

Mental Arithmetic.

For beginners, a numeral frame should be procured, but of a different kind from the one manufactured for schools in Boston. This latter is a frame with twelve wires passing across, on each of which are twelve balls, painted, alternately, of two different colors. Such a frame, as it does not correspond with our *decimal* system of arithmetic, can be but of little use. For our purpose, an old slate frame will answer very well. The vertical sides should be pierced for eleven wires, ten of which should be at equal distances, the eleventh further apart,—say double the distance. On each wire should be placed ten beads, half of one color and half of another,—say blue and yellow,—arranged as follows: three yellow, two blue, two yellow, three blue. Thus we shall have one hundred beads, on ten wires, to represent units, and ten, on the eleventh, to represent hundreds; and so arranged, by twos, threes, fives, and tens, that any number, not exceeding one thousand, can be read off as easily as by the use of ciphers.

Let us now take a class, who cannot count. The teacher, holding the frame so that the beads are all on one side, and passing one of those on the upper wire across to the opposite side, says, "There is one bead. Repeat, after me, one bead; (passing another across,) two beads;" &c., till all the ten are passed across, and named. Then repeat the operation, omitting the word *bead*, till all can readily count from one to ten. This is enough for the first lesson. The second lesson should

be a repetition of the first, with this addition: When the three yellow beads are passed across, say, "Now, try to recollect three." Then pass three across on another wire, and ask, how many there are. If they do not know, count the first three again, and repeat, on different wires, till they know three, at a glance. In like manner, make them familiar with four, five, six, seven; and for eight, nine, ten, direct their attention to the other side, as eight on one side may be known by two on the other; nine, by one, and ten, by none. This may probably be too much for the second lesson. The teacher must take care not to fatigue the little pupils, by too long exertion.

As soon as the class has become familiar with the first ten numbers, and able to name them on the frame, at a glance, the difficulty is pretty much over; as the others are chiefly a repetition of the first ten. In teaching them we should, at first, call them by their *original* names, before we introduce the class to their *common*, or *contracted* names, as this will explain the *system* of numbers, which will tend to simplify every part of arithmetic. The class, then, should be told, that *ten* has three different names; namely,

1. One ten, standing by itself, is called, . . ten.
2. One ten, joined to another number, . . teen.
3. More than one ten, ... ty.

Applying this to the frame, pass the ten beads on the first wire across, and then say, "There is *ten*." Now, one bead across from the second wire, "There is *oneteen*; another will make *twoteen*; three, *threeteen*; four, *fourteen*;" &c., to nineteen; and, passing the last one across, "Now we have *twoty*." Then, by passing the beads of the third wire singly across, we shall have, *twoty-one*, *twoty-two*, &c., to *threety*; and, continuing the operation, *fourty*, *fivety*, *sixty*, &c., to *ninety-nine*, the last bead gives *tenty*, or a hundred. We have seen classes, who have gone, at once, from ten to one hundred; and, at the next lesson, could name any number required, on the frame, not exceeding one hundred; and, by telling them that each bead on the eleventh wire stood for one hundred, their knowledge extended to one thousand.

When they have become familiar with the nomenclature, which will be in three or four lessons, the abbreviations, which are few and simple, may be explained. The most difficult are the two first, *oneteen*, *twoteen*, which are changed to *eleven*, *twelve*; the others are very simple, namely, *threeteen* and *threety* are shortened to *thirteen* and *thirty*; *fiveteen* and *fivety*, to *fifteen* and *fifty*; lastly, *twoty* is *twenty*; and *fourty* is *forty*.

This explanation is principally intended for those who know nothing of arithmetic. But it would be profitable for the whole school to go over the frame once or twice, as there are few who have clear notions of the meaning of *ty* and *teen*.

Our little pupils, having thus acquired the nomenclature of numbers, the fundamental processes of addition, subtraction, multiplication, and division, may now be commenced. The first two should be taught simultaneously on the frame: thus, passing two beads and two beads, the class will see they make four; and, if two be taken from four, two will remain. If this be practised a very few minutes every day, in a week or two the class will add or subtract, instantly, any two numbers, not exceeding one thousand. Multiplication and division should also proceed simultaneously. Thus, taking eight beads, ask, how many twos it contains; and, if one of the class separate them on the wire into twos, all will see there are four; consequently, four twos make eight, and eight contains four twos. It will not be necessary to go further than the fifth line in multiplication and division; as the higher numbers will be more readily taught from Colburn's 'First Lessons,' of which anon. The frame need now be no longer used as a regular exercise, but should always be convenient to the teacher's desk; as, if properly used, it will be of much advantage to the class.

For very small children, Fowle's 'Mental Arithmetic' should precede Colburn's 'Lessons;' but those of seven or eight years of age may pass, at once, into Colburn. Of these books, there should be only one copy in school. Any intelligent teacher can use them, even though unpractised in mental arithmetic. When this is the case,

however, she should work out every question, mentally, along with the class. The main advantage of mental arithmetic is, the wonderful manner in which it disciplines some of the most important faculties of the mind, particularly those of attention, abstraction, and reasoning. But to gain these advantages, in any considerable degree, the pupils should distinctly know, that the questions are never to be repeated. They must give their *whole* attention, while the question is reading, and they must retain the whole in their minds, until they have found the answer, and explained the process by which it was discovered. The books ought to be used thus: The teacher reads, "Your brother William gave you nineteen cents, your brother John, ten, and your cousin Mary, two. How many have been given to you, in all?"

C. (*after consideration.*) Thirty-one.

T. How do you know?

C. Because brother William gave me nineteen, brother John, ten; now ten and nineteen make twenty-nine; and cousin Mary gave me two; twenty-nine and two make thirty-one.

T. Very well. Twelve men are to have ninety-six dollars for performing a piece of work. How much is due to each?

C. Eight dollars.

T. Why?

C. Because, as the twelve men were to have ninety-six for their work, and as there are eight twelves in ninety-six, of course each man would have eight.

I now give a question in a more advanced stage.

T. A cistern has two cocks; the first will fill it in three hours, the second in six hours; how long would it take both to fill it?

C. Two hours.

T. Why?

C. Because if the first can fill it in three hours, it will fill one third of it in one hour; and if the second will fill it in six hours, it will fill one sixth in one hour; but one third is equal to two sixths; therefore, both will fill three sixths, or one half, in one hour; or the whole, in two hours.

Some of the exercises in addition, in Colburn's 'First Lessons,' are so easy, though not the less important, that there is some danger of the class allowing their minds to wander, and yet answering correctly. This may be checked, by varying the questions, as follows: Instead of, Nine and four? Nineteen and four? Twenty-nine and four? Thirty-nine and four? regularly increasing the number of *ty*, let them be varied, thus: Twenty-nine and four? Forty-nine and four? Thirty-nine and four? Fifty-nine and four? &c.

It requires some tact, to gain the utmost advantage from mental arithmetic; but it is easily acquired. The main point is, that the attention of the teacher be kept *wide awake*. The dull and slow must be allowed time; the bright must not be suffered to monopolize the answers. At the same time, it will not do for the answers to be received, in the order in which the pupils stand in the class; for, in this case, only one child would be occupied at once. Each pupil would attend only to his own question; whereas all should be occupied, and should actually solve every question put to the class. The best plan, then, is, for each to hold up a finger, when ready to answer, leaving the teacher to select whose turn it shall be. Thus, every one might have an equal chance. The dull and the bright, however, ought not to be together, but in different classes. In fact, it would be well to have the classes differently arranged, for each separate study. Some are bright at reading, and dull in arithmetic, and *vice versa*. To chain the dull to the bright has bad effects on both.

The Pestalozzian plates, at the end of Colburn's book, may or may not be studied, at the option of the teacher. They are explained in the 'Key,' page 141. At all events, they should be clearly understood by the teacher.

Abbreviations in Mental Arithmetic.—The following abbreviations have never before been published. They may probably not only be useful to the student, but lead to the invention of others, equally profitable.

To multiply by 5. Take half the number, and multi-

ply by 10. We take half, because multiplying by 10 gives double of multiplying by 5. Thus, $5 \times 64 = \frac{64}{2} \times 10 = 32$ty, or 320. When the number is odd, halving leaves a remainder of 1, which, of course, is one 5. Thus, $73 \times 5 = \frac{73}{2} \times 10 = 36$ty and five, or 365.

Let us next proceed to 15, 20, 25, 30, &c., and afterwards take up the intervening numbers.

Fifteen is 10 and half of 10; therefore, increasing any number a half, and multiplying by 10, is the same as multiplying by 15. Thus, as 64 and half of 64 make 96, $64 \times 15 = 96$ty, or 960. When the number is odd, proceed as above, in speaking of 5. Thus, $75 \times 15 =$ 112ty and five, or 1125, and the square of 15 is 22ty and five, or 225.

Twenty being two tens, to multiply by 20, double the number, and multiply by 10. Thus, $20 \times 45 = 90$ty, or 900.

Twenty-five is one fourth of 100; therefore, to multiply by 25, take $\frac{1}{4}$ of the number for hundreds: every unit in the remainder is one twenty-five. Thus:

$24 \times 25 = \frac{24}{4} \times 100 = 600.$
$25 \times 25 = \frac{25}{4} \times 100 = 625.$
$26 \times 25 = \frac{26}{4} \times 100 = 650.$
$27 \times 25 = \frac{27}{4} \times 100 = 675,$ &c.

Fifty is half of 100; therefore, to multiply by 50, take $\frac{1}{2}$ the number for hundreds. Thus, $24 \times 50 = \frac{24}{2} \times 100 = 1200$.

Thirty is thrice ten; therefore, to multiply by 30, take thrice the number, and multiply by 10. Thus, $24 \times 30 = 72$ty, or 720.

Let us now examine the intermediate numbers, which are all done on one principle. Fourteen times any number is 15 times that number, less once the number; and 13 times any number is 15 times the number, less twice the number. Thus, $14 \times 24 = 15 \times 24$, less once 24; and $13 \times 24 = 15 \times 24$, less twice 24. Again, $16 \times 24 = 15 \times 24$, more once 24; and $17 \times 24 = 15 \times 24$, more twice 24. Thus, by connecting two numbers less,

and two numbers more, with our 15, 20, 25, 30, &c., we have all the intermediate numbers.

Division is performed by reversing these processes; that is, multiplying, where division is shown above; and dividing, where multiplication is indicated. Though not so easy as multiplication, some practice in it will be useful.

This system of abbreviations may seem obscure or difficult, perhaps, to those who have never practised mental arithmetic. But nothing is hazarded in the assertion, that, where Colburn's Arithmetic is used, as pointed out above, the class will understand and apply it with ease and rapidity, before they have gone half through that work. The teacher may exemplify the abbreviations for himself, on the slate; but they should be performed by the school, exclusively in the mind.

It is a matter of the first importance, that the teacher should have a distinct idea of the objects to be gained by the practice of mental arithmetic; as, otherwise, the main advantages that might result from it will assuredly be lost. Let it be constantly borne in mind, then, by the teacher, that the knowledge of arithmetic is *not* the chief benefit to be derived from it, but one of secondary importance. It is the mental discipline, the power of abstraction, the habit of attention and of reasoning which it developes, that constitutes its chief value. But all these advantages are lost, if the child is allowed to study the book; more especially by working out the questions on the slate. They can only be completely attained, by calling on the class to solve each question *mentally*, merely from hearing it *once* read, and then to give a clear account of his mental operations. And, so beautifully are the questions arranged, so completely does the knowledge gained in each question, come into requisition in those that follow, that, if the plan of study be commenced right, and strictly followed, the most intricate and difficult questions will give no trouble to the class.

It may, perhaps, be incredible to some, but it is not the less true, that Colburn's book may be gone through, and correct notions be attained of the principles of arith-

metic, without the knowledge of a single character. A child, who can neither write nor read, who has never even seen a figure, will probably acquire this knowledge more readily than those who fully understand them. Notwithstanding this, however, as the knowledge of figures is an indispensable part of education, and as its acquisition is much the easiest in early youth, as soon as a child can hold his pencil correctly, and can write the ten characters, he should proceed to the practice of

Written Arithmetic.

Notation.—The method of expressing large numbers and of performing large operations, by *words*, is so inconvenient and tedious, that, from the earliest periods known, characters have been invented to express them more concisely. Almost every ancient nation had a method peculiar to itself; only three of which, however, are necessary to be known by the American student.

The *first* is the Greek mode, in which the first nine letters of their alphabet represented the numbers from 1 to 9, and the next nine letters represented the tens from 1 to 9; that is, 10, 20, &c., to 90. The hundreds they represented by the other letters, supplying what were wanting by other marks, or characters; and in this order they proceeded, using the same letters, again, with different marks, to express thousands, tens of thousands, &c. This method of notation is now only used in Greek books, to denote the numbers of chapters, sections, &c.

The *second* is the Roman method, which is now used by all the European nations, and their American descendants, for distinguishing dates, chapters, and sections of books, &c. This, like the Greek, is derived from the alphabet, but in a different order. The *origin* of the Roman numerals is sufficiently evident; and, as a knowledge of this origin is not only an aid to its acquisition, but will enable the student to recall it to mind when forgotten, an explanation of it will not be considered out of place here.

The *ten fingers* present so obvious and convenient a mode of numeration, that every tribe and people, hitherto

known, except the Chinese, and an obscure tribe mentioned by Aristotle, have had recourse to them. The Romans not only used the digits, or fingers, as the foundation of their method of computing, but also derived from them several of their characters. Thus, a finger, represented by I, stood for one; two, three, and four fingers, represented by II, III, and IIII, stood for two, three, and four. By holding up the hand, with all the five fingers extended, a tolerably correct representation of the letter V will appear, formed by the thumb and index finger. In like manner, VI is one hand and a finger of the other; VII, a hand and two fingers, &c.; while X represents both hands, considered as two Vs, joined by their apices; or it may be formed, by holding up both hands, one thumb resting across the other. C and M, being the initial letters of *centum* and *mille*, the Latin words for 100 and 1000, stood for those numbers. L and D, representing half of C and M,* stand for their halves, 50 and 500. This was undoubtedly the arrangement of the first Roman numerals; but, as the eye does not readily distinguish more than three similar characters, at a glance, a plan was adopted, to prevent the recurrence of more than three, by making a smaller number, when placed *before* a larger, to be subtracted in place of added. Thus, in place of IIII, we have IV = 5 less 1; for VIIII = 5 + 4 = 9, we have IX = 10 — 1 = 9; for XXXX = 4 tens, we have XL = 50 — 10; for LXXXX = 50 + 40 = 90, we have XC = 100 — 10 = 90.

When this form of numeration has been explained to a class, they ought to be questioned on the blackboard, till the subject has become perfectly familiar. A somewhat complicated question is subjoined, as a specimen.

T. What number is MDCCCXLIV?

C. M is 1000; D, 500; three Cs, 300; together 1800; X, 10, to be taken from L, 50, leaves 40; I, 1, from V, 5, leaves 4: altogether, 1844.

T. What does the I represent?

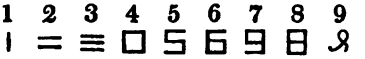
C. A finger.

* The C was originally written, ⊏, half of which is L; half the M, Λ, only wants a little rounding, to transform it into D.

T. The V ?
C. A hand.
T. The X ?
C. Two hands.
T. The C ? the L ? the M ? the D ?

The *third* system of characters representing numbers, is that which is commonly called the Arabic, though now generally allowed to be of Indian origin. It was introduced into Europe about A. D. 1130. This is so very much superior to all others, that it is hardly credible that our long and complicated arithmetical operations could have been performed before it came into use. The characters in this system indicating numbers, (commonly called the *significant figures*,) are only nine. They have most probably received their origin, also, from the fingers, but in a different manner from the Roman numerals; some of the marks consisting of vertical, others of horizontal lines. The following are supposed to be the original forms of the characters:

1 2 3 4 5 6 7 8 9



Thus, 1 is represented by a vertical line, as in the Roman system; 2, by two horizontal ones; 3, by three do.; 4, by a square, or two vertical and two horizontal lines; 5, by three horizontal and two vertical; 6, three horizontal and three vertical; 8, (two fours,) two squares; 7, two squares, less one vertical; lastly, 9, evidently borrowed from the Greek 9, (ϑ, *theta*.) The 7 also is, by some, supposed to be borrowed from the Greek ζ, (*zeta*,) to which it bears a considerable resemblance. All the characters have been rounded to their present form, by rapidity in writing.

These nine characters have each two values, viz., their *simple* value, as one, two, three, &c., and their *local* value, which depends on their distance from the place of units, which is always the first on the right hand, unless otherwise indicated by a mark, which shall be explained presently. Thus, in the following number, 6666, we

have six, four times repeated; but every time the character represents a different value, the first on the right hand representing the units, (or *ones*,) and, therefore, simply six; the second, 6 *ty*, or tens; the third, 6 tens of tens, or hundreds; the fourth, 6 tens of tens of tens, or thousands; and, if there were more, they would still go on, increasing tenfold, to infinity. Thus we perceive, that the fundamental law of the Arabic system is, that *a removal of a figure one place towards the left increases its value, tenfold; and, on the contrary, its removal towards the right decreases it, tenfold.*

In addition to the nine characters mentioned above, there is one which does not consist of *lines*, like the *significant figures*, but, on the contrary, is entirely round, to express that it has in itself *no value*, its sole use being to occupy the *place* of some denomination, which may be wanting, and which, therefore, instead of its customary name of *cipher*, may be appropriately termed *figure of place*. Thus, to represent six hundred and five, (605,) it is necessary to have a character that has no value, in itself, to stand in the place of tens; otherwise, the 6 would be 6 tens or ty, in place of 6 hundred.

Whenever the figures representing any number consist of more than four, they should be divided, by commas, into series of threes, the unit being counted as the first, whether they extend to the right or left of it.

Every figure, besides its simple *name*, (one, two, three, &c.,) has two other names, which may be likened to the Christian and family names of children, as exemplified in the following table:

Billions.			Millions.			Thousands.			Units.		
Tom	Tens.	Units.	Hund.	Tens.	Units.	Hund.	Tens.	Units.	Hund.	Tens.	Units.
3	6,		8	4	7,	2	0	6,	0	3	2
John			Bill	Tom	John	Bill	Tom	John	Bill	Tom	John
Brown.			*Smith.*			*Graham.*			*Jones.*		

Carrying out our simile, we may say, that, in every family, excepting in the one on the extreme left, there must always be three chairs for the boys, none of which must ever be empty; for, if any boy be absent, a block (cipher, or figure of place, 0) must occupy his chair, till he returns. For the sake of brevity, we never name any of the Johns, nor the family name of Jones. For instance, instead of saying John Brown, John Smith, &c., we merely say Brown, Smith, &c., and Bill Jones and Tom Jones are merely called Bill and Tom. Applying this to the real local names of the figures, we never make use of the word *units*, at all. Whenever either or both local names are wanting, units is always understood. For instance, when we say, two, we mean two units of units, and when we say six thousand, we mean, six units of thousands. Let, now, a series of figures be written on the blackboard; let one of the class divide them into series of threes, and exercise the class in naming them, irregularly, till all become quite familiar with the subject. Again, write several figures of the same kind, thus:

6 5 4 3 2 1
4 4 4 4 4 4,

and ask, how many times is the second 4 greater than the first? how many times is the third greater than the first? the fourth, than the first? the fourth, than the second? the fourth, than the third? &c. Again, how many times is the first *contained* in the second? the first in the third? the second in the sixth? &c.

T. What is the name of the first series of threes?

C. Units.

T. The third?

C. Millions.

T. The second? the fourth? &c.

T. Repeat the three names of the first series.

C. Units, tens, hundreds.

T. Repeat the three names of the third series. Are they the same in every series?

T. What name is never used?

C. Units.

Again, write

4 0 6 0

T. How much is the 4 ? the 6 ? What is the use of the figures of place ?

C. To show the place of the 4 and the 6.

T. If I remove the 6, will the value of the 4 be changed ? Will the value of the 6 be changed, if I remove the 4 ? Why not ?

C. Because, as we name from the right, the 6 will still stand in the place of tens of units, whatever change we make in the figures on its left.

T. If I place a 6 on the right of the sum, thus, 40606, are the other 6 and 4 changed, and how ?

T. Fifty-two millions, six thousand, and twenty. How many figures are necessary to represent this sum ? How many of them are significant figures ?

Questions similar to the above, having been repeated, till the notation of integers has become quite familiar to the class, the teacher may turn to the article *Arithmetic*, in Chap. V. of Part I., of this book, where directions are given, how to explain and comment on notation of decimals. The class will then take their books and slates, and proceed to express, in figures, numbers given in words, using all the examples given in the books of arithmetic, both in integers and decimals. Should the class not be familiar with the practice of rendering words into figures, after they have exhausted all the questions in their book of arithmetic, the teacher should make new ones, or procure them from some other book. The pupils can never be expert in arithmetic, till this subject is perfectly understood.

Addition.—This rule is perhaps more used in business than any other in arithmetic. The student, before he leaves it, should be able to add long sums, rapidly and correctly, such as are found in merchants' books, &c. If he has practised mental arithmetic, long sums may be given him at once ; if not, he may commence with shorter ones, and gradually lengthen them. As soon as he acquires a little proficiency, he should begin to add two or

three figures at once, preparatory to which, he may be exercised, as follows:

T. How many does 6 want to make up 10?

C. Four.

T. How many does 4? 7? 9? &c.

T. How many does 6, 7, 4, &c., want, to make 11?

T. How many do the same numbers want, to make 12?

When the class can answer such questions instantly, their attention should be directed to the fact, that adding 10 to a number does not change its units, that adding 11 or 12 increases the units by 1 or 2, and that adding 8 or 9 *decreases* them 2 or 1.

T. What effect has adding 8 on the units?

T. What effect has adding 12, 10, 11, 9?

A little practice on the following, and a few similar sums, will so accustom the class to add two or three figures, at once, as to make it nearly as easy as adding a single figure at a time.

1st.	2d.	3d.
a b c	*d e f*	*g h i*
1 3 5	2 1 8	3 4 2
9 8 7	3 2 3	4 3 3
7 7 4	5 8 1	7 7 4
3 4 8	3 7 2	6 6 1
4 5 5	4 3 4	8 1 2
6 6 7	3 1 6	5 2 3
2 2 3	2 4 8	2 8 4
8 9 9	7 4 3	5 9 5
5 8 4	1 3 1	3 7 6
5 3 8	4 5 4	9 6 7
3 7 5	2 1 5	7 4 8
7 4 7	4 5 3	1 3 9

In the column *a*, every two figures make 10; in *b*, every two make 11; in *c*, every two make 12. In *d*, every three figures make 10; in *e*, every three make 11; in *f*, every three make 12. In *g*, every two alternate

figures, viz., first and third, and second and fourth, &c., make 10; in *h*, the first and fourth, second and third, fifth and eighth, seventh and sixth, &c., make 10; the column *i* goes on a different principle, which is, that whenever three figures follow, in regular order, their sum is equal to three times the middle one; that is, the sum of 9, 8, and 7 is 3 times 8; $4 + 5 + 6 = 3 \times 5$; because, if 1 be taken from the largest and added to the smallest, all three would be equal. Let the teacher point out to the school, or to a class, the different combinations in the columns *a*, *b*, *c*, *d*, &c., and then write some columns of figures, at random, and he will be surprised, how quickly the little pupils will catch the different combinations, and add them together. A smart child, after a little practice, will run his eye up a column, and tell its contents, almost instantaneously.

Addition of decimals should be practised, simultaneously with addition of integers, and the reasons for placing the figures explained, as given in Chap. V. Part I. The reason for carrying the tens should also be explained on the blackboard, as follows, by which it will become obvious to sight.

426	426
789	789
325	325
20	1540
12	
14	
1540	

Subtraction.—The only difficulty about subtraction relates to the *borrowing*. Some teachers fail in explaining, why we borrow from one figure and pay to another; or, as the boys call it, borrow from Peter and pay Paul. The most simple mode of explanation, and perhaps the most simple mode of performing the operation, is as follows:

From	46384
Take	13946
Leaves	32438

We cannot take 6 from 4; but the 84 may be considered as 70 and 14; then 6 from 14 leaves 8. Now, as we have used one of the tens, take the 4 from the remaining 7, which leaves 3. For the same reason, we take 9 from 13, and 3 from 5; one of the 6 thousands having been taken to make 13 hundreds.

Multiplication.—If mental arithmetic has been properly attended to, the student will have no occasion for the multiplication table. If it has not, the table ought to be learnt, while he is practising addition and subtraction. But he should not be allowed to copy it from a book. He should make it for himself, the teacher only showing him how to proceed, thus:

2 times 1 =	$3 \times 1 =$
2 " 2 =	$3 \times 2 =$
2 " 3 =	$3 \times 3 =$
&c. &c.	&c. &c.

In the mathematics, nothing should be taken on trust, except tables of weights, measures, &c., and names of the characters.

The table, or a part of it, being learnt, let questions be set for him, multiplying by 2, 3, 4. When he comes to 5, it may be abbreviated, thus:

263584
5
1317920

Namely: *suppose* the largest factor to be multiplied by 10, by annexing a cipher, which, being double the amount, has only to be halved for the true product.

When he comes to multiply by 9, *suppose* it to be multiplied by annexing a cipher, and then, as the largest factor is once too many, he has only to subtract it, namely, 5 from 0, 4 from 5, 2 from 4, &c.

3679245
9
33113205

Multiplying by 11, may be performed by addition, by *supposing* the largest factor to be repeated, one of them standing one figure to the left of the other. It may be shown on the blackboard, as No. 1, and done, afterwards, as No. 2, namely, by supposing the process in No. 1 to be before you.

No. 1.	No. 2.
426389	426389
11	11
426389	4690279
426389	
4690279	

In No. 2, the process is as follows, namely: 9 is 9; 8 and 9 make 17; carry 1 to 3 is 4, and 8 are 12; &c., adding (after taking the first figure on the right by itself) each figure to the one next it to the left.

When the multiplier is any number between 12 and 20, the process may easily be performed at one operation. Thus:

No. 1.	No. 2.
3216	3216
16	16
19296	51456
3216	
51456	

By examining No. 1, it will be readily perceived, that the three lines might have been contracted into one, by adding in the right-hand figure, after multiplying the first figure by 6. Or the rule may be expressed thus: Multiply by the units' figure of the multiplier, continually adding in the adjoining right-hand figure of the multiplicand.

Multiplying by 25, may be performed by one operation, by *conceiving* the largest factor to be multiplied by 100, and then dividing by 4, 25 being $\frac{1}{4}$ of 100. Other abbreviations in multiplication will be shown, connected with division.

Division.—The operations in division, by more than one figure, occupy a great deal of space, and require many figures. They may be much contracted, by placing the divisor and quotient on the same side of the dividend, and performing *mentally* the subtraction of the products, given by the divisor and each figure of the quotient, as shown in the following example:

Dividend, or product, 17589 | 39, divisor, or factor.
198 |—
39 | 451, quotient, or factor.

Having found that 39 will go 4 times in 175, we say 4 times 9 are 36, which, instead of setting down as usual, we subtract from the 5 by borrowing 4 tens, which gives the remainder 9; then 4 times 3 are 12, and 4 borrowed make 16, from 17 leaves 1. To the 19 we bring down the 8, and proceed, as before. This is the Italian method; which, being quite as easy as the old formal English mode, is strongly recommended, by its conciseness, to our American youth. The divisor and quotient being factors of the dividend, (see Chap. V. Part I.,) affords another good reason for placing them together.

Abbreviations.—When the divisor is any of the numbers in the following Table of Divisors, the quotient may be found in two lines, at most, by short multiplication and division, as in the adjoining rules. From their simplicity, they require neither explanation nor proof.

To divide by	5,	multiply by	2,	and divide by	10
"	15	"	2	"	30
"	25	"	4	"	100
"	35	"	2	"	70
"	45	"	2	"	90
"	55	"	2	"	110
"	75	"	4	"	300
"	125	"	8	"	1000
"	175	"	4	"	700
"	275	"	4	"	1100
"	375	"	8	"	3000
"	625	"	8	"	5000
"	875	"	8	"	7000
"	1125	"	8	"	9000
"	1375	"	8	"	11000

The above rules for division may be converted into rules for multiplication, by changing the divisors into multipliers, and the multipliers into divisors; thus:

To multiply by	175,	multiply by	700,	and divide by	4
"	375	"	3000	"	8
"	1375	"	11000	"	8
	&c.		&c.		&c.

A great many other abbreviations might be mentioned, here; but, as they are much more easily understood, when explained on a blackboard, than when merely detailed in words, the subject is left to lecturers in teachers' seminaries, to whose attention it is earnestly recommended. A year would be profitably spent, by all the pupils in the primary schools, in the practice of abbreviating arithmetic.

In each of the processes of addition, subtraction, multiplication, and division, questions in decimal fractions should be practised, simultaneously with those in integers. For an explanation of the manner of placing the dot, see Chap. V. Part I. Questions in Federal money, which are, in fact, questions in decimals, should also be worked out at the same time.

Vulgar Fractions.—This part of arithmetic, from the defects of our popular school-books, is seldom clearly apprehended by the pupil. We shall, therefore, even at the risk of swelling this treatise beyond its proper limits, endeavor to present a clear and comprehensive view of the subject.

The term *vulgar*, in connexion with fractions, means *common*. They are so called, because *every kind* of fraction may be expressed in that way, whereas *decimal* fractions can only express those whose unit is divided into 10, 100, 1000, &c., parts. The *name*, or *denomination* of decimals, like those of integers, depends on their distance from the unit's place, and their value increases or diminishes, *tenfold*, by moving to the left or to the right. Thus, in the following number,

a b c d e f
222.222,

the *denominator* of $\overset{c}{2}$ is units; that of $\overset{d}{2}$, tenths; $\overset{e}{2}$, hundredths. We see, then, that, if we wished to express any other kind of fraction than tenths, hundredths, &c., we should have to resort to some other device. The one, that has been adopted, is, to write their *denomination*, or *name*, directly *under them*. Thus $\frac{3}{4}$ is a vulgar fraction, whose denomination is fourths, and its number three. The difference, then, between a *decimal* and a *vulgar* fraction, is, that the denomination of the former is known by its *distance from the unit's place*; whereas the denomination of the latter is known by the *figure written under it*, hence called its *denominator*. As the lower figure, then, is called the denominator, because it expresses the denomination, or name, of the fraction, so the upper figure has been called the *numerator*, because it expresses the *number* it contains. In the fraction $\frac{3}{4}$, then, 3 is the number it contains, or its numerator; and 4, their value, or denomination, or denominator.

The whole of the above may be concisely expressed, thus: *The value of integers and decimal fractions is known from their distance from the unit's place; that of vulgar fractions from the figures written under them.*

To make the subject still more clear, let us examine it, in a different point of view.

The word *fraction* implies *division*. It signifies, that one whole, (an apple, a loaf, a stick, &c.,) or unit, has been divided into a certain number of equal parts, which number is expressed by the denominator, or name of the fraction, while the numerator expresses the number of those parts which it contains. Thus, our fraction $\frac{3}{4}$ means, that a unit has been divided into four parts, hence called fourths, three of which are expressed by the fraction.

If we have 19 apples to divide among 4 boys, we shall see the use of fractions. Thus,

$$4)19$$
$$\overline{4\ldots3}$$

shows, that there will be four to each boy, and three remaining. Now, if we cut each of these three into 4 parts,

we shall have 12 fourths to divide among the 4 boys, consequently, 3 fourths (or $\frac{3}{4}$) for each. We see, then, that the above quotient might have been properly expressed by placing our divisor 4 under the remainder 3, thus:

$$4)19$$
$$4\frac{3}{4}$$

A vulgar fraction, then, always expresses *division*, the lower figure being the divisor, the upper, the dividend, and the whole, ($\frac{3}{4}$,) the quotient. In fact, a vulgar fraction may be expressed in three ways, thus:

$$3 \div 4 \qquad 3 : 4 \qquad \frac{3}{4}$$

each of which simply means, that 3 is to be divided by 4. Having found, then, that the numerator of a fraction is a dividend, and the denominator its divisor, it is plain, that the following fractions are all equal to one another.

$$\frac{a}{2}\ \frac{b}{3}\ \frac{c}{4}\ \frac{d}{5}\ \frac{e}{6}\ \frac{f}{7}\ \frac{i}{8}\ \frac{x}{16}, \text{ &c.,}$$

each being equal to one integer, or 1. We see, also, that, *if we multiply or divide both terms of the fraction, by the same number, we do not change its value.* For, if we multiply both terms of the fraction *a* by 4, we shall have the fraction *i*, and both have the same value, namely, 1. Again: if we divide both terms of the fraction *x* by 4, we shall have the fraction *c*, but the value remains the same, namely, 1.

Very different, however, will be the effect, if we multiply or divide *one*, only, of the terms of the fraction. For it is easy to be seen, that, by *multiplying* the numerator of the fraction *c* by 2, we have $\frac{8}{4}$, (eight fourths,) the double of $\frac{4}{4}$, (four fourths;) and by dividing the numerator of the same fraction *c* by 2, we have only $\frac{2}{4}$, half of $\frac{4}{4}$. It appears, then, that, *if we multiply or divide the numerator by any number, we multiply or divide the fraction by the same number.*

But, on the contrary, by multiplying the *denominator* of *i* by 2, we have $\frac{8}{16}$, only half of $\frac{8}{8}$, since there are the same *number* in both, and a sixteenth is only half of an

eighth; and, by dividing the denominator by 2, the fraction is doubled, since the number is still the same, but the denomination or value is doubled, a fourth being double of an eighth. It appears, then, that, *if we multiply or divide the denominator, we produce the contrary effect on the fraction.*

Collecting together these three important deductions from the three last paragraphs, we may form a general rule, by stating, that,

By multiplying } the numerator, the fraction is { multiplied.
By dividing } { divided.

By multiplying } the denominator, the fraction is { divided.
By dividing } { multiplied.

By multiplying } both, the fraction is unchanged.
By dividing }

From the latter part of the above table, it is evident, that a number, in a fractional form, may be expressed in an infinite variety of ways. Take, for instance, $\frac{1}{2}$; it may be multiplied without end, as follows:

$$\frac{1}{2}\ \frac{2}{4}\ \frac{4}{8}\ \frac{8}{16}\ \frac{16}{32}\ \frac{32}{64}\ \frac{64}{128}\ \frac{128}{256}, \text{ &c.,}$$

all of which are exactly equal. Or, taking $\frac{1}{3}$,

$$\frac{1}{3}\ \frac{2}{6}\ \frac{4}{12}\ \frac{8}{24}\ \frac{16}{48}\ \frac{32}{96}\ \frac{64}{192}\ \frac{128}{384}, \text{ &c.,}$$

all of which are also equal. The first of each of these series, $\frac{1}{2}$ and $\frac{1}{3}$, is the most simple form of the fraction, and it is often important to know how to find it from any of the others. This is called *reducing it to its lowest terms*, and may evidently always be done by dividing it by such numbers as will divide both its terms. But, as it will frequently be difficult to find out, by mere inspection, what divisors will answer, and as, even then, it would often be necessary to perform a great number of operations, it is important to discover a mode of finding out, at once, its greatest common divisor. This may always be done, by dividing the greater of the two terms by the less; then the less by the remainder of the first division; then this remainder by the remainder of the

second division; then this second remainder by the third; and so on, till we arrive at an exact quotient: the last divisor will be the common divisor sought; or, if it prove to be 1, the numbers have no common divisor. Let us apply this to the fraction, $\frac{384}{164}$.

Dividend 384 | 164, first divisor.
| 2, quotient.
164 | 56, first remainder and second divisor.
| 2, quotient.
56 | 52, second remainder and third divisor.
| 1, quotient.
52 | 4, third remainder and fourth divisor.
Net quotient | 13, greatest common divisor.

We can make ourselves certain, that this last divisor will always be the greatest common divisor, by tracing the above operation backwards, as follows: as 4 divides 52, it will divide 56, which is once 4 more; as it divides 52 and 56, it will also divide 164, which is twice 56 and 52; and, as it divides 56 and 164, it will also divide 384, which consists of twice 164 and 56. It is also evident, that there can be no divisor greater than 4, since 4 must be divided by it.

It is not always necessary to find the greatest common divisor, in order to reduce a fraction to its lowest terms. It can frequently be done by inspection, in which the pupil will be much aided by the following remarks:

Every even number,—that is, every number terminated by 0, 2, 4, 6, 8,—is necessarily divisible by 2; for, in dividing by 2, only 1 can remain from the tens. If nothing remain, the last number to be divided will be 0 or 2, 4, 6, 8; if 1 remain, the last number will be 10, 12, 14, 16, 18, all of which are divisible by 2.

Every number, whose two right-hand figures are divisible by 4 or by 25, is itself divisible by 4 or by 25; because both these numbers will divide *one* hundred without remainder, and, consequently, *any* number of hundreds.

Every number whose three right-hand figures are divi-

sible by 8 or by 125, is itself divisible by 8 or by 125; for, as *one* thousand is divisible by 8 or by 125, *any* number of thousands is equally divisible.

Every number terminated on the right by a cipher or by 5, is divisible by 5; because 10, or any number of 10s, is divisible by 5.

Every number, the *sum* of whose significant figures is divisible by 3 or by 9, is itself divisible by 3 or by 9. Thus, the number

426,213

is divisible by 9, because, as 100,000 consists of 99,999 and 1, 100,000, divided by 9, will leave a remainder of 1, and 400,000, a remainder of 4. For a like reason, 20,000 will leave a remainder of 2, 6000, of 6, 200, of 2, &c.; that is, each of the figures in the above or any other number, if divided by 9, will leave a remainder equal to the simple value of the figure; and, if the sum of all the remainders is divisible by 9, of course, the whole number is divisible by 9. But the sum of the above remainders is divisible by 9; therefore, the number is divisible by 9. The same demonstration will answer for 3. Therefore, *every number, the sum of whose significant figures is divisible by* 9 *or by* 3, *is itself divisible by* 9 *or by* 3. And every number divisible by 9 is also divisible by 3, although every number divisible by 3 is not divisible by 9.

Thus we can tell, almost by a glance, whether any number can be divided by 2, 3, 4, 5, 8, 9, 10, 25, or 125.

T. What will be the remainder, if we divide 326 by 25? Tell by inspection.

T. What will be the remainder, if any, of dividing 6892736 by 4? by 9? by 3?

As soon as the teacher has fully explained to his class, on the blackboard, all that has been stated above, relative to fractions, and ascertained that it is thoroughly understood, the pupils should practise, on the slate, the reduction of fractions to their lowest terms, and the teacher proceed as follows, on the blackboard.

An integer, or whole number, may be represented in a fractional form, by placing a unit under it, as its denomi-

nator. Thus, 6 or 8 may be written $\frac{6}{1}$, $\frac{8}{1}$. An integer may also be represented in connexion with a fraction. Thus, $\frac{19}{8}$ contain the integer 2 and $\frac{3}{8}$ more. For, as $\frac{8}{8}$ are equal to 1, $\frac{16}{8} = 2$; therefore, $\frac{19}{8} = 2\frac{3}{8}$; or this result may be obtained, by actually performing the division indicated by $\frac{19}{8}$. Thus,

$$8\overline{)19}\quad 2\tfrac{3}{8}.$$

Every fraction, then, whose numerator exceeds its denominator, contains a whole number, which may be obtained by performing the division indicated. Such fractions are called improper fractions; and, when the division is performed, (as above,) the quotient, if it consist of an integer and fraction, is called a *mixed number*. The improper fraction may evidently be reproduced, by multiplying the whole number by the divisor of the fraction, adding in the numerator, and replacing the denominator of the fraction.

[Let the pupils now practise on the slate, the reduction of improper fractions to mixed numbers, and *vice versa*.]

From the table given page 162, we see that a fraction can be multiplied two ways: namely, by multiplying its numerator, or by dividing its denominator; and that it can also be divided in two ways: namely, by dividing its numerator, or by multiplying its denominator. Hence it follows, that *multiplication*, alone, according as it is performed on the numerator or denominator, is sufficient, both for the multiplication and division of fractions. Thus, $\frac{3}{10}$ multiplied by 5, makes $\frac{15}{10}$, and divided by 5, makes $\frac{3}{10}$.

[Here give suitable examples, for practice, both in multiplication and division of fractions by whole numbers.]

Multiplication and division of fractions by fractions, may be thus exemplified: Multiply $\frac{3}{5}$ by $\frac{4}{7}$.

$$\frac{\overset{a}{3}}{\underset{b}{5}} \times \frac{\overset{a}{4}}{\underset{b}{7}}.$$

First, the 4 may be considered a whole number, and mutiplying by it, gives $\frac{12}{5}$; but it is not 4, but the sev-

enth part of 4; therefore, our $\frac{12}{5}$ is 7 times too much. Accordingly, if we divide by 7, by multiplying the denominator, we shall have $\frac{12}{35}$, the true answer. Hence, the common rule, ***Multiply the numerators, for a new numerator, and the denominators, for a new denominator.***

Divide $\frac{5}{10}$ by $\frac{3}{5}$.

$$\frac{\overset{b}{5}}{\underset{a}{10}} \div \frac{\overset{a}{3}}{\underset{b}{5}}$$

Dividing $\frac{5}{10}$ by 3 gives $\frac{5}{30}$; but our divisor is not 3, but the fifth part of 3; therefore, we have divided by a number 5 times too large, and our $\frac{5}{30}$ is 5 times too small. Therefore, multiplying it by 5, gives $\frac{25}{30}$, the correct answer. But, if we mark our two first factors *a*, and our two second factors *b*, it will appear, that, if we had reversed the divisor, we might have proceeded, as in multiplication. Hence, our common rule in division, ***Reverse the divisor, and proceed as in multiplication.***

These two demonstrations should be repeated on the blackboard, by every member of the class, till the subject has become perfectly familiar.

The term *fractions of fractions* is sometimes given, to expressions like this: $\frac{2}{3}$ of $\frac{4}{5}$, which signifies the *product* of such fractions. That the word *of*, here, represents multiplication, appears from expressions with which all are familiar. For instance; every one knows that $\frac{1}{3}$ of 6 is 2. Now, by multiplying, we have $\frac{6}{3} = 2$. Again, $\frac{1}{4}$ of 12 is 3; multiplying gives us $\frac{12}{4} = 3$.

The process of multiplying fractions may frequently be very much abbreviated. Thus, in the question $\frac{3}{4}$ of $\frac{4}{5}$ of $\frac{6}{7}$ of $\frac{5}{6}$ of $\frac{9}{10}$ of $\frac{7}{8}$ of $\frac{8}{9}$ = how much?

$$\frac{\overset{a}{3}}{\underset{a}{\cancel{4}}} \times \frac{\overset{a}{\cancel{4}}}{\underset{b}{\cancel{5}}} \times \frac{\overset{c}{\cancel{6}}}{\underset{d}{\cancel{7}}} \times \frac{\overset{b}{\cancel{5}}}{\underset{c}{\cancel{6}}} \times \frac{\overset{e}{\cancel{9}}}{10} \times \frac{\overset{d}{\cancel{7}}}{\underset{f}{\cancel{8}}} \times \frac{\overset{f}{\cancel{8}}}{\underset{e}{\cancel{9}}} = \frac{3}{10}.$$

The whole affair consists merely in striking out factors and divisors that are equal, and may be thus demonstrated. It would be a waste of time to multiply $\frac{3}{4}$ by 5, marked *b*, and then to divide by 5, also marked *b*. The

same reasoning allows us to strike out the two 8s, marked *f*, the two 9s, marked *e*; and, going on thus, we have, at length, nothing left but $\frac{3}{10}$, which is the true answer. The same abbreviation may be practised in division, after we have reversed the divisor, and thus changed the division into multiplication.

Many cases occur, in which abbreviations may be made, although the whole number may not, at once, be struck out, or even though all the factors may never disappear.

No. 1.

$$\frac{3}{a\,\cancel{8}\;\;b\,\cancel{4}} \times \frac{a\,\cancel{2}}{b\,\cancel{4}} \times \frac{b\,\cancel{16}}{35} = \frac{3}{35}.$$

No. 2.

$$\frac{a\,\cancel{4}}{b\,\cancel{7}} \times \frac{c\,\cancel{4}\;\;b\,\cancel{28}}{a\,\cancel{32}\;\;c\,\cancel{8}\;\;2} \times \frac{3}{5} = \frac{3}{10}.$$

No. 1 is thus abbreviated: divide *a* 2 and *a* 8 by 2; which gives a new denominator 4; then strike out the two denominators *b* 4 and *b* 4, and the numerator *b* 16. In No. 2, divide the two *a* s by 4, the two *b* s by 7, and the two *c* s by 4.

[Here give examples, for practice, in multiplication and division of fractions by fractions, which should be examined by the teacher, to see if all the possible abbreviations have been made.]

Many young students find it difficult to comprehend, why multiplying by a fraction should *lessen*, and dividing *increase* a number. But this difficulty may be removed, by explaining, that multiplying by a number is taking it as many times as there are *units* in the multiplier; that, consequently, when we multiply by 2, the product will be twice the multiplicand; when we multiply by 1, the product will be once the multiplicand; and when we multiply by $\frac{1}{2}$, the product will be half the multiplicand, &c. In division, when the divisor is 5, the dividend is five times the quotient; consequently, the quotient is one fifth of the dividend. And if the divisor be a fraction, $\frac{1}{2}$, for instance, the dividend can be but half the quotient, or the quotient double of the dividend.

Let it be remarked here, once for all, that all the expla-

nations will appear somewhat abstruse and difficult, when merely given *in words*; but, when illustrated by numbers, on the blackboard, as these and what follow are intended to be, they will readily be understood by any intelligent child.

Addition and Subtraction of Vulgar Fractions.—It will be recollected, that, in multiplication and division of integers, it is not necessary that the multiplicand and multiplier, or the divisor and dividend, should be of the same denomination; for 6 thousand could be multiplied or divided by 3 units, as readily as 6 units could. The same remark applies to fractions; for $\frac{8}{9}$ can be multiplied or divided by $\frac{2}{5}$, just as easily as by $\frac{1}{3}$. This, however, is not the case with addition and subtraction, either in integers or fractions. For 2 units cannot be added to 3 hundred, in any other manner, than by naming or writing them, one after the other, as they do not make 5 of any denomination; and, in like manner, $\frac{1}{3}$ and $\frac{1}{4}$ cannot be added, until they are changed into the same denomination. In subtraction, 6 units cannot be taken from 8ty, without first reducing one or more of the ty, into units. In fractions, also, $\frac{2}{5}$ cannot be taken from $\frac{3}{4}$ until their denomination is made the same, by changing the form of one or both. Thus it appears, that, although we can multiply or divide fractions, however they may differ in denomination; it is always necessary that they should have the same denominator before they can be added or subtracted; and that the same remark applies to integers. It becomes necessary, then, to point out the simplest mode of *reducing fractions to the same denominator*.

Suppose, then, we wished to add or subtract $\frac{1}{3}$ to or from $\frac{2}{5}$. If *each term* of the first fraction be multiplied by 5, the denominator of the second; and *each term* of the second be multiplied by 3, the denominator of the first, the value of both will be unchanged, and they will have the same denominator 15, namely; $\frac{5}{15}$ and $\frac{6}{15}$. In this form, there is no difficulty, either in adding or subtracting them; and the process, which has been applied to the above fractions, may be applied to any other. In general, then, to reduce any two fractions to the same denominator, the *two terms of each* of them must be *mul-*

tiplied by the denominator of the other. And any number of fractions are reduced to a common denominator, by multiplying the *two terms of each* by the *product of the denominators* of *all* the others; for it is plain, that the new denominators are all the same, since *each* is the product of *all* the original denominators and that the *new* fractions have the *same* value as the former ones, since nothing has been done except multiplying each term of these by the same number.

It frequently happens, that fractions can be reduced to a common denominator by a shorter and more simple process.

No. 1. $\frac{2}{4}$ $\frac{3}{8}$. No. 2. $\frac{1}{4}$ $\frac{2}{3}$ $\frac{5}{6}$.

Thus, in No. 1, it is readily perceived, that the $\frac{2}{4}$ can be reduced to eighths, by multiplying both terms by 2, which renders it unnecessary to alter the $\frac{3}{8}$ at all; and, in No. 2, we can see, at a glance, that all the fractions can be brought to twelfths, by multiplying both terms of $\frac{1}{4}$ by 3, of $\frac{2}{3}$ by 4, and of $\frac{5}{6}$ by 2. In these cases, the denominators 8 and 12 are called the *least common multiples.* Where the least common multiple cannot be found by inspection, it may be attained by the following rule:

1. Place the given numbers, of which you wish to find the least common multiple, one after another, in a horizontal line. 2. Divide as many of these numbers as possible, by any common measure, or divisor, setting underneath the several quotients, together with the undivided numbers. 3. Proceed with this second rank of numbers, as with the first; and so on, till no further division of any two numbers can be made. 4. Multiply together the several divisors and the last rank of numbers, and the product will be the least common multiple required. When the numbers have no common measure, (in which case, they are said to be primes to each other,) then it follows, that the product of these numbers will be their least common multiple.

Required, the least common multiple of the denominators 14, 18, 20, 24.

2	14	18	20	24
3	7	9	10	12
2	7	3	10	4
	7	3	5	2

$= 2520$, least common multiple.

The principle, on which the above rule is founded, is, that when any *two or more* numbers have a common factor, it need not be used but once. Now, in the first line, all the numbers have the factor 2, which need only be used once. In the second line, 9 and 12 have the common factor 3. In the third line, 10 and 4 have the common factor 2. We therefore only require the factors in the last line, and the divisors, each, once; which will be found to give a number 48 times less, than if we had used the first rule, of multiplying each by the product of all the others.

In practice, it will be found convenient, always to change mixed numbers or integers, when they occur, into improper fractions.

[Here give examples, for practice, in addition and subtraction.]

All that now remains, on the subject of fractions, is, to show the method of changing decimal into vulgar, and vulgar into decimal fractions,—processes which may be inferred from what has already been said. For, as it was shown that the only difference between these two kinds of fractions was, that vulgar fractions had their denominations *expressed* by the figures written under them, while the denomination of decimal fractions was *implied* by their distance from the dot which marked the place of units, it is plain, that a decimal is converted into a vulgar fraction, simply by writing under it its value, or denomination; while a vulgar fraction is converted into a decimal, by *performing* the *division* indicated by its denominator. Thus, $.6 = \frac{6}{10}$ or $\frac{3}{5}$, and, by performing the division on either of the vulgar fractions, we have again .6.

[Reduction, and addition, subtraction, multiplication, and division of compound numbers, may now be prac-

tised. These are, in general, sufficiently explained in our common school-books.]

Proportion.—After the class have sufficiently practised the various modes of increasing and decreasing numbers, both simple and compound, integers and fractions, they should begin to *apply their knowledge* to the solution of arithmetical questions, most (or properly speaking, all) of which may be referred to *Proportion*. But, first, it is necessary that a few terms, of frequent occurrence, be defined.

Ratio, or the relation or comparison of two numbers as to quantity, is *the quotient* arising from dividing the one by the other, and is thus expressed; 8 : 4, or $\frac{8}{4}$. This ratio is evidently 2.

The first term of a ratio is called the *antecedent*, the second the *consequent*.

In a ratio, both terms must relate to quantities of the *same nature*. Thus, there is a ratio between 9 horses and 3 horses, but there can be none between 2 horses and 4 barns, because they are not capable of comparison as to quantity. This observation should be particularly attended to, for, in the old-fashioned method of stating proportion, things of different natures are mingled together, rendering the subject difficult of explanation. Thus, the question,—If 7 lbs. of sugar cost 75 cts., how many lbs. can I buy for $6?—used to be stated thus:

cts. lbs. cts.
75 : 7 : : 600;

a mode which is highly objectionable, as contrary to the definition of ratio, there being no ratio between 75 cts. and 7 lbs.

Proportion is the combination of *two equal ratios*. Thus:

No. 1.				No. 2.			
a	*b*	*c*	*d*	*a*	*b*	*c*	*d*
4 :	2 =	16 :	8,	3 :	9 =	1 :	3,

are proportions, the two ratios in each being equal; those in No. 1 being 2, those in No. 2, $\frac{1}{3}$, (one third.)

The *first* and *last* terms of a proportion are called the *extremes*; the *two middle* terms, the *means*.

It is evident, from the mere inspection of any proportion, that the antecedent of the first ratio contains, or is contained, as many times in the antecedent of the second, as the consequent of the first contains, or is contained, in the consequent of the second; and, from this equality, it follows, that the product of the means is equal to the product of the extremes. For, if the numbers of the second ratio be double (treble, one half, or any other number of times) that of the first, it is evident, that the product of the antecedent of the first with the consequent of the second, will be double (treble, one half, or any other number of times) the product of the two terms of the first ratio; and that the product of the consequent of the first with the antecedent of the second, will also be double (treble, one half, or any other number of times) the product of the two terms of the first ratio. Consequently, these products are equal, because they are both double (treble, one half, or any other number of times) the product of the terms of the first ratio; and this equality will occur in all cases, whatever. Now, as these equal products are those of the extremes and means, we thus have the rule of proportion: *The product of the means is equal to the product of the extremes.*

[Let this be demonstrated, a few times, on the blackboard, till it has become familiar. It will be intelligible to the youngest member of the class, if he has made such progress in *mental* arithmetic, as to have acquired a *command of his attention.*]

When any three terms of a proportion are given, the fourth can easily be found. For, if one of the *means* be wanting, we have only to take the product of the extremes, and, as that is equal to the product of the means, if we divide by the given mean, the quotient will be the other. In like manner, if one of the *extremes* be wanting, it can be found by dividing the product of the means by the given extreme. Thus, in the two following proportions, in which x stands for the unknown number:

No. 1. $4 : 6 = x : 18$. No. 2. $x : 4 = 3 : 6$.

1. The product of the extremes $4 \times 18 = 72$, which,

being also the product of the means, dividing by the given mean, (6,) will give the other, (12,) which here is represented by x.

2. The product of the means $4 \times 3 = 12$, divided by the extreme 6, gives the other, 2.

It appears from the above, that it is of no consequence which term of the proportion is wanting. If any three are given, the fourth can be found. But, as it will be more *convenient* for the student always to place the unknown term last, we shall regularly pursue that course. Let us now proceed to the solution of questions, which we shall copy from Adams's 'New Arithmetic.' But we shall work them out in a manner entirely different.

Rule of Three.—1. If a piece of cloth, 4 yards long, cost 12 dollars, *what will be the cost* of a piece of the same cloth, 7 yards long?

Our first business is, to ascertain, what it is that is wanted, which will be known *from the words asking the question*. In the above, we know it to be *money*; because the question is, "what will be the cost?" Therefore, 12 dollars is one of the terms of the imperfect ratio. Accordingly, we write it thus, $12 : x$; the x representing the unknown number. The other ratio is one of *yards*, and the numbers 4 and 7. To know in what *order* to place them, we read the question, and say, *More*, or *less*? As 7 yards will evidently cost more than 4, the answer is, *More*. Having thus ascertained, that the consequent x is more than 12, the other ratio must be placed in the same order, that is, making its largest term the consequent:

$$4 : 7 = 12 : x.$$

We might now proceed to take the product of the means, $(7 \times 12,)$ and dividing by the given extreme, (4,) would show the amount of the other, represented by x; but, as this, and almost all other questions, can readily be abbreviated, it will be proper to examine the proportion more particularly, with that view. At a glance, then, it will be perceived, that the 7 and 12 are factors, according to the rule, and 4 a divisor. But, as

we found, when investigating fractions, that, when there were both factors and divisors in a computation, the result was the same, if we divided both a divisor and a factor by the same number, it appears that, if we divide 4 and 12 by 4, we shall have the same proportion,

$$1 : 7 = 3 : x,$$

in which x, the answer, is seen, by inspection, to be 21.

2. If a horse travel 30 miles in 6 hours, *how many miles* will he travel in 11 hours, at that rate? [Ask again, *More*, or *less?*]

$$6 : 11 = 30 : x$$

Dividing by 6, $1 : 11 = 5 : x = 55$, by inspection.

3. At \$54 for 9 barrels of flour, *how many barrels* may be purchased for \$186? [*More*, or *less?*]

$$54 : 186 = 9 : x$$

Dividing by 9, $6 : 186 = 1 : x$

" " 6, $1 : 31 = 1 : x = 31$, by inspection.

Many of these questions may be still further shortened, by abbreviating, mentally, while first stating them. Thus:

4. If 3 men perform a certain piece of work in 10 days, *how long* will it take 6 men to do the same?

Dividing by 3, $2 : 1 = 10 : x = 5$, by inspection.

Fellowship.—1. Two men own a ticket; the first owns $\frac{1}{4}$, the second $\frac{3}{4}$, of it. The ticket draws a prize of \$40. What is each man's share?

First man, 1 fourth.
Second man, 3 fourths.
4

First man's proportion, $4 : 1 = 40 : x = 10$, by inspection.
Second " " $4 : 3 = 40 : x$
Dividing by 4, $1 : 3 = 10 : x = 30$ " "
40, proof.

2. Two persons have a joint stock in trade. A puts in \$250, and B \$350; they gain \$400. What is each man's share?

A's stock, 250
B's " 350
600

Dividing by 200, mentally,

3 : 250 = 2 : x = evidently $\frac{1}{3}$ of 500 = $166\frac{2}{3}$
3 : 350 = 2 : x = $\frac{1}{3}$ of 700 = $233\frac{1}{3}$

Proof, $400

3. A bankrupt is indebted to A, $780, to B, $460, and to C, $760; his estate is worth only $600. How must it be divided?

A's debt, $780
B's " 460
C's " 760
$2000

Dividing by 200, mentally,

10 : 780 = 3 : x = 234, by inspection.
10 : 460 = 3 : x = 138 " "
10 : 760 = 3 : x = 228 " "
$600, proof.

Fractions.—1. If $\frac{11}{30}$ lb. of sugar cost $\frac{7}{15}$ of a shilling, what will $\frac{33}{43}$ of a lb. cost?

$$\frac{11}{30} : \frac{33}{43} = \frac{7}{15} : \frac{x}{x}.$$

By reversing our divisor, $\frac{11}{30}$, the whole proportion is changed into *multiplication of fractions.*

Reversing, $$\frac{30}{11} \times \frac{33}{43} \times \frac{7}{15} = \frac{x}{x}.$$

Dividing by 11 and by 15, $\frac{2}{1} \times \frac{3}{43} \times \frac{7}{1} = \frac{42}{43}$ of a shilling.

2. If $\frac{7}{16}$ of a ship costs $252, what is $\frac{3}{32}$ of her worth?

Reversing, $$\frac{16}{7} \times \frac{3}{32} \times \frac{252}{1}.$$

Dividing by 16 and 7, $\frac{3}{2} \times \frac{36}{1} = \$54$, by inspection.

This question might as readily have been performed in one line, by reversing and dividing at the same time.

Every question is not susceptible of such abbreviations; but a vast majority may be thus considerably shortened, and a large number entirely so, as above, so as to require no multiplication. The pupil should be encouraged even still further to shorten such questions, by resolving all the abbreviating processes into one, mentally, while stating the question. Such a habit is easily acquired. Children of both sexes, under nine years of age, have solved questions like the above, without writing them down, at all, merely by inspecting the book. Where questions cannot be sufficiently abbreviated to be solved by inspection, recourse must be had to the rule, *Product of means = product of extremes.*

Compound Proportion.—Proportion is said to be compound, when the imperfect ratio is not equal to another given ratio, but is compounded of *several* relations, or ratios. Take, for instance, the following question:

1. If a man travel 273 miles in 13 days, travelling only 7 hours in a day, *how many miles* will he travel in 12 days, travelling 10 hours in a day?

Here it will be perceived, that the question,—*How many miles?*—depends neither entirely on the number of days, nor on the number of hours travelled in each day, but is influenced by both. It might be resolved into two questions of simple proportion; but it is more easily and simply treated as one, of compound proportion, solved, however, on the same principles.

	Days.	Days.	Miles.	Miles.
	13	: 12	}	
Hours	7	: 10	}	273 : x.

Dividing 273 by 13 and by 7, or by their product, 91,

$$\left.\begin{matrix} 1 : 12 \\ 1 : 10 \end{matrix}\right\} 3 : x = 360, \text{ by inspection.}$$

2. If 6 men build a wall, 20 feet long, 6 feet high, and 4 feet thick, in 16 days, *in what time* will 24 men build one, 200 feet long, 8 feet high, and 6 feet thick?

$$\left.\begin{matrix}24:6\\20:200\\6:8\\4:6\end{matrix}\right\}16:x.$$ Contracting, $$\left.\begin{matrix}\cancel{8}\cancel{24}:\cancel{6}\ 2\\ \cancel{20}:\cancel{200}\ 10\\ \cancel{6}:\cancel{8}\\ \cancel{4}:\cancel{6}\end{matrix}\right\}\begin{matrix}4\\ \cancel{16}:x=80,\\ \text{by inspect.}\end{matrix}$$

This was done by dividing 24 and 8 by 8; 20 and 200 by 20; 3 and 6 (first ratio) by 3; 6 and 6 by 6; 4 and 16 by 4. It is hardly necessary to observe, that, in these abbreviations, all the 1s have been omitted, as the multiplying or dividing by that number can produce no change.

3. If 56 lbs. of bread be sufficient for 7 men 14 days, *how much bread* will serve 21 men 3 days?

$$\left.\begin{matrix}7:21\\14:3\end{matrix}\right\}56:x.$$

Contracting by 7 and 14, $\left.\begin{matrix}1:3\\1:3\end{matrix}\right\}4:x=36$, by inspect.

There being a greater variety of numbers in compound proportion, it admits of contractions more frequently than simple proportion, though there may be *some* questions, which are not susceptible of any. When multiplication *has* to be performed, it should be recollected, that the left-hand extreme and the first mean, consist of several numbers, the product of which being severally taken, we proceed as in simple proportion. The teacher should be careful to impress on his pupils the necessity of asking the question, *More, or less?* previously to the writing down of *every ratio*. Thus, in the last question, let the pupil say, How much bread? $56:x$. If 56 be sufficient for 7, how much for 21? More, or less? *More*. Then the consequent must be the greater; $7:21$. If 56 be sufficient for 14 days, how much for 3? More, or less? *Less*. Then the antecedent must be the greater; $14:3$.

4. If $100 gain $6, in one year, what will $400 gain in 9 months?

$$\left.\begin{matrix}100:400\\12:9\end{matrix}\right\}6:x.$$ Dividing by 100 and 6 and 2, $\left.\begin{matrix}1:2\\1:9\end{matrix}\right\}1:x=18.$

Interest.—Let the subject of interest be explained from any of the popular books on arithmetic; adding,

The words, *per cent.*, *per ann.*, are either expressed or

understood, in every question respecting interest, immediately after the rate.

Per cent. means *for every hundred.*

Per ann. means *for every year.*

When the rate is not expressed, *six* is always understood.

For instance, in the following question, What is the interest of $11.04 for 1 year, at 3 per cent.? the words, *per annum*, are understood. And in the question, What is the interest of $150 for 16 days? the words, *at 6 per cent. per ann.*, are understood, and must be supplied, in stating the question. From the want of a clear understanding of the terms employed, many pupils find the subject of interest exceedingly difficult. Let the teacher repeatedly question his class, till he is sure they are thoroughly understood.

Case I.—Principal, time, and rate, given, to find the interest or amount.

1. What is the interest of $11.04, for 1 year, at 3 per cent.?

$$\left.\begin{matrix} 100 & : & 11.04 \\ 1\text{ yr.} & : & 1\text{ yr.} \end{matrix}\right\} 3 : x.$$

Dividing by 100, $\left.\begin{matrix} 1 & : & .1104 \\ 1 & : & 1 \end{matrix}\right\} 3 : x = .3312$, by inspec.

2. What is the *interest* of $150, for 16 days?

$$\left.\begin{matrix} 100 & : & 150 \\ 360 & : & 16 \end{matrix}\right\} 6 : x.$$

Divide by 1000 and 6. $\left.\begin{matrix} 1 & : & .15 \\ 6 & : & 16 \end{matrix}\right\} 1 : x.$

Divide by 6, that is, the upper by 3, the lower by 2.

$$\left.\begin{matrix} 1 & : & .05 \\ 1 & : & 8 \end{matrix}\right\} x : .4, \text{ by inspection.}$$

3. What is the *interest* of $1000, for 120 years?

Divide by 100. $\left.\begin{matrix} 1 & : & 10 \\ 1 & : & 120 \end{matrix}\right\} 6 : x = \$7200$, by inspection.

4. What is the *interest* of $520.04, for 30 years and 6 months?

$$\left.\begin{matrix} 100 & : & 520.04 \\ 12 & : & 366 \end{matrix}\right\} 6 : x.$$

Divide by 100 and by 12, that is, 366 by 2, and 6 by 6.

$$\left.\begin{matrix}1 : 5.2004 \\ 1 : 183\end{matrix}\right\} 1 : x = 951.6732.$$

5. What is the *interest* of $400, for 10 years, 3 months, and 6 days?

$$\left.\begin{matrix}100 : 400 \\ 360 : 3696\end{matrix}\right\} 6 : x.$$

Divide by 1000 and 6. $\left\{\begin{matrix}1 : 4 \\ 1 : 61.6\end{matrix}\right\} 1 : x = \$246.40.$

6. What is the *amount* of £100 for 8 years?

$$\left.\begin{matrix}100 : 100 \\ 1 : 8\end{matrix}\right\} 6 : x = 48, \text{ interest, by inspection.}$$

100, principal.

£148, amount.

Case II.—The time, rate per cent., and amount, given, to find the principal.

1. What *sum* of money, put at interest at 6 per cent., will *amount* to $61.02 in 1 year and 4 months?

Here, as we have only one amount given, we must find another at the same rate and time, to complete the ratio. Let us find the amount of $100.

$$\left.\begin{matrix}100 : 100 \\ 12 : 16\end{matrix}\right\} 6 : x.$$

Divide by 100 and 12. $\left\{\begin{matrix}1 : 1 \\ 1 : 8\end{matrix}\right\} 1 : x = 8,$ interest.

100, principal.

$108, amount.

$$\begin{matrix}\text{Amt.} & \text{Amt.} & & \text{Princ.} \\ 108 & : & 61.02 = & 100 : x.\end{matrix}$$

Removing the dot, viz. multiplying by 100, and dividing by 108, gives $x = \$56.50$.

2. What principal, at 8 per cent., in 1 year and 6 months, will amount to $85.12?

$$\left.\begin{matrix}100 : 100 \\ 12 : 18\end{matrix}\right\} 8 : x.$$

Divide by 100 and 12. $\left\{\begin{matrix}1 : 1 \\ 1 : 6\end{matrix}\right\} 2 : x = 12,$ interest.

100, principal.

$112, amount.

$$112 : 85.12 = 100 : x = \$76.$$

Removing the dot, and dividing by 112, gives the answer, $76.

3. Suppose I owe a man $397.50, to be paid in a year, without interest, and I wish to pay him now. How much ought I to pay him, when the usual rate is 6 per cent.? Evidently, such a sum, as, put to interest, would, in 1 year, amount to $397.50. Such a sum is called the present worth of $397.50.

$$\left.\begin{matrix}100 : 100 \\ 1 : 1\end{matrix}\right\} 6 : x = 6, \text{ interest.}$$
$$100, \text{ principal.}$$
$$\$106, \text{ amount.}$$

Removing dot, and dividing by 106,

$$106 : 397.50 = 100 : x = \$375.$$

Case III.—Time, rate, and interest, given, to find the principal.

1. What sum of money, put at interest 16 months, will gain $10.50, at 6 per cent.?

$$\left.\begin{matrix}6 : 10.50 \\ 16 : 12\end{matrix}\right\} 100 : x.$$

Divide by 12 and remove dot. $\left.\begin{matrix}1 : 1050 \\ 8 : 1\end{matrix}\right\} 1 : x = 131.25$, by inspec.

2. A man paid $4.52 interest, at the end of 1 year and 4 months. What was the principal?

$$\left.\begin{matrix}6 : 4.52 \\ 16 : 12\end{matrix}\right\} 100 : x.$$

Divide by 12 and remove dot. $\left.\begin{matrix}1 : 452 \\ 8 : 1\end{matrix}\right\} 1 : x = 56.50$, by inspection.

3. A man received for interest, at the end of a year, $20. What was the principal?

$$\left.\begin{matrix}6 : 20 \\ 1 : 1\end{matrix}\right\} 100 : x = \$333\tfrac{1}{3}, \text{ by inspection.}$$

Case IV.—Principal, interest, and time, given, to find the rate per cent.

1. If I pay $3.78 interest, for the use of $36, for 18 months, what is the rate per cent.?

$$\left.\begin{matrix} 3 \\ 36 : 100 \\ 10 : 12 \end{matrix}\right\} \begin{matrix} 378 \\ 7 \end{matrix} : x = 7.$$

Here we suppress the dot, and strike out 100; divide 36 and 12 by 12; and divide 378 by $3 \times 18 = 54$.

2. If I pay \$2.34 for the use of \$468, 1 month, what is the rate per cent.?

$$\left.\begin{matrix} 2 \\ 468 : 100 \\ 1 : 12 \end{matrix}\right\} \begin{matrix} 2.34 \\ 6 \end{matrix} : x = 6.$$

Case V.—Principal, rate per cent., and interest, given, to find the time.

1. The interest on a note of \$36, at 7 per cent., was \$3.78. What was the time?

$$\left.\begin{matrix} 3 \\ 36 : 100 \\ x : 3.78 \end{matrix}\right\} \begin{matrix} 12 \\ 18 \end{matrix} : x = 18 \text{ months.}$$

2. On a note of \$600, paid interest \$20, at 8 per cent. What was the time?

$$\left.\begin{matrix} 600 : 100 \\ 8 : 20 \end{matrix}\right\} \begin{matrix} 12 \\ 2 \\ 5 \end{matrix} : x = 5.$$

The different cases of simple interest, then, are nothing more than compound proportion. If care be taken that the subject required is made the imperfect ratio, and, with respect to each of the other ratios, the question be always asked, What effect will it produce on the answer? will it make it more or less? the student can never be at a loss in stating the question. If the answer be, *More*, of course the consequent must be the greater. If *Less*, the antecedent. A very few questions, worked out on the blackboard by an intelligent teacher, will give his pupils a practical knowledge of the whole system of arithmetic, which could not be easily attained by any other means; and they will be able to perform such questions as the above, after a little practice, with still fewer figures.

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In this mode of teaching, the pupil is not embarrassed by a multiplicity of rules; there is but one simple rule, *the equality of the means and extremes.*

The other subjects generally connected with arithmetic, namely, compound interest, involution and evolution, arithmetical and geometrical progression, properly belong to algebra; and are best understood in that connexion. Should the teacher, however, prefer the old course, these can be taught from any of the popular treatises on arithmetic. When a teacher introduces the system here presented, he should caution his class to pay no attention to the rules laid down in the books from which they will copy their practical questions, unless otherwise directed. Mingling the two systems would produce nothing but inextricable confusion.

CHAPTER IX.

INTELLECTUAL EDUCATION, CONTINUED.

Geography.

This science should be taught, as much as possible, upon maps; and the reason why all maps are imperfect should be pointed out. Every school should possess a small globe. Each pupil should have his skeleton maps, to be filled up from time to time; and, whenever any place is mentioned, either in the course of reading or in composition or elocution exercises, the teacher should inquire where it is; and whether it is on their maps. If its situation is not known, the name should be written on a corner of the blackboard, till the gazetteer is consulted. It would be well, if one set of skeleton maps were appropriated to this especial use, and hung up in a conspicuous part of the room. The geographical treatise should be used as a reading book, and never conned, or committed to memory. 'Parley's Geography' should be the first book on this subject.

History.

Parley's First, Second, and Third, Books of History are good introductions to this science. In reading history, maps should always be consulted. They elucidate and give an air of reality to the subject. The teacher should satisfy himself, by appropriate questions, that the pupils have clear notions, both of the time and place of the events recorded. The American edition of Lavoisne's 'Genealogical, Historical, Chronological, and Geographical Atlas,' and the 'American Atlas,' on the same plan, would form invaluable additions to the school library, in the hands of a skilful teacher.

Human Physiology.

An admirable little work for children, on this subject, by Mrs. Jane Taylor, has been published by the American Common School Society of New York, which might be used as a reading book, after 'Juvenile Lessons,' with great advantage. After a portion of it has been read, both question and answer, by the class, without study, let them close their books, the teacher read the questions, and the pupils give answers, in their own words.

Botany.

Some popular treatise on botany should be read aloud by the teacher, illustrated, as much as possible, by living plants. Specimens of all the plants growing in the neighborhood should be collected, whilst in flower, pressed, and dried, for the *Herbarium*. A *Folium* should also be formed, consisting of well-preserved specimens of leaves, of every variety of size and shape. A few macerated leaves would be interesting in the folium. A considerable number of specimens of each kind, both of plants and leaves, should be preserved, so as to exchange with distant schools, lyceums, or individuals making collections.

No amusements more completely absorb the attention or efforts of youth, than the collecting, arranging, labelling, and exchanging, natural specimens. And, when children and youth are thus engaged, they have neither time

nor disposition to devote to vicious pleasures. Their kind and generous propensities are also called into vigorous exercise, by exchanges and presents; and they are thus prepared for an enlightened and liberal course of action, in whatever department of society they may be called to take a part.

Mineralogy and Geology.

We are not, it is to be feared, yet prepared to carry these sciences into our common schools, though it is highly desirable that they should form a branch of study there. It is to be hoped, that some of the votaries of these sciences will, ere long, have sufficient patriotism to devote their talents towards so simplifying them, as to bring their elements, at least, within the reach of early youth. What immense advantages might not be derived for our country, nay, for the world, from a million of schoolboys, spread all over the land, each with hammer in hand.*

Agriculture.

In the country schools, it is highly important, that the boys should acquire correct ideas of the nature of soils, the effects of manures, the best kinds of tools and stock, and the most profitable methods of cultivation; on all which subjects the majority of our farmers are deplorably ignorant. The American Common School Union have published, in New York, an excellent little work on this subject, entitled the 'Farmer's School Book.'

Vocal Music.

The introduction of vocal music into our schools is an object of great importance. Regarded merely as a refined pleasure, it has a favorable bearing on public morals. Let taste and skill in this beautiful art be spread

* Since writing the above, I have met with Professor Mather's 'Geology for Schools,' an admirable little book, but the science is not sufficiently simplified for children from eight to ten years of age, the best season for enlisting youth in active pursuits of this nature. Perhaps a knowledge of mineralogy can only become general through the medium of the Normal Schools. But the question recurs, can it not be still more simplified for early youth?

among us, and every family will have a new resource; home, a new attraction. Social intercourse will be more cheerful, and an innocent public amusement will be furnished to the community. Public amusements, bringing multitudes together, to kindle with one emotion, to share the same innocent joy, have a humanizing influence; and, among these bonds of society, perhaps no one produces so much unmixed good as music. What a fulness of enjoyment has our Creator placed within our reach, by surrounding us with an atmosphere which may be shaped into sweet sounds! And yet this goodness is almost lost upon us, through want of culture of the organ by which this provision is to be enjoyed.

In addition to this consideration, it ought to be remembered, that vocal music forms a very interesting part of Divine worship; and that, in most Protestant churches, it is the only part of the service in which the congregation can join. How desirable, then, it is, that no one should be excluded from a share in this species of Divine homage!

The opinion is still entertained, in many parts of our country, that a musical voice and ear has been conferred by Providence only on a favored few. But, fortunately, this absurd prejudice is fast dying away, under the laudable exertions of the Boston Academy of Music, and the accounts given by travellers of the universal cultivation of vocal music in Europe. No rational mind, who has fully examined the subject, can doubt, that the only reason why music is not equally common here, is, that the cultivation of the voice is delayed till *it is too late*. Like every other part of the body, it must be exercised in early youth, if we would have it attain strength and proficiency. What use should we have of our limbs, or of our power of speech, if both were left entirely without practice till the age of eighteen or twenty? And yet this is the course adopted with respect to music. During the years of infancy, while the vocal organs are delicate and pliable, it is totally neglected; and, because we cannot attain a command over it at an adult age, after it has become inflexible from want of use, we blame Nature, for not giving us a voice!

If, then, we desire this beautiful accomplishment to be universal, let us use the proper means. As soon as a body of *permanent female teachers* have been procured, in any town, for the primary schools, let a good teacher of vocal music be procured from the Academy, for one year; and let it be considered a *duty* for the primary teachers to attend, *whether they have a musical voice or not*, with a view of introducing it as a regular exercise in the schools. If the teacher be incapable of leading the singing in her school, she can teach the elements of the science, and let one of the pupils be the leader. When once vocal music is fairly introduced into the common schools, the object is accomplished for ever. For, where music is heard in every house, it will come as naturally to children as speech.

As a school exercise, music cannot fail to produce admirable effects. Its power of soothing the passions into peace, and of allaying mental fatigue, is every where acknowledged. In this point of view, if a moderate share of time be devoted to it, it will be found to hasten, rather than retard, the progress of the other studies; to cause a gain, rather than a loss, of time. As a mental discipline, also, it ranks as high as any part of the mathematics, of which, indeed, it forms, in some respects, a branch.

The Higher Branches of Education.

So much space has been devoted to the studies of the primary school, that but little can be afforded to the higher branches of the central schools and colleges. This, however, becomes less a matter of regret, as the chief errors in education lie in the cultivation of the first branches. Let but the *principles*, laid down in treating of reading and arithmetic, be carried out, in the study of the languages, and the higher branches of the mathematics; let every thing be taught thoroughly and intellectually, avoiding, diligently, all mere mechanical routine; let things, rather than words, be the object of pursuit, and, instead of cultivating the memory exclusively, let every intellectual faculty have its due share of attention, and all will be well.

Arrangement of Studies, and Order of Recitation.

In the primary school, it should be distinctly recollected, that the main points, to which every thing else should bend, are the acquisition of *reading* WITH INTELLIGENCE, and the developement of the mental faculties, by a judicious system of questioning after the reading exercises, and by the practice of mental and written arithmetic, and of composition. If the hours of attendance vary with the respective ages of the scholars, probably the best order of recitation would be as follows:

1. At nine o'clock, when the eldest scholars assemble, let them mutually examine each other's compositions, prepared at home the evening before, and mark the errors. When these are disputed, let the teacher be the umpire.

2. Exercises in elocution; a certain number being called on, by rotation, to narrate some little event, or describe some natural object. This always to be done standing.

3. Exercises in mental arithmetic.

At ten o'clock, on the entrance of the second class, the first class to take their slates, and practise written arithmetic the rest of the forenoon. The second class to pursue a similar course to that of the first, taking up their written arithmetic on the entrance of the third class, at eleven.

Eleven o'clock. The third class go through their reading exercises, singly, or in classes, each to be followed by questioning, spelling a few words from the lesson, and a short exercise on the numeral frame, or mental arithmetic.

Afternoon. The whole school being assembled at one, a short story, or description in natural history to be read by the teacher to the whole school, followed by questioning, and a few easy sums in mental arithmetic. The rest of the hour to be occupied by reading, &c., of the third class, which is to be dismissed, at two.

Two o'clock. The second class pursue a similar course. Illustrations on the blackboard. Dismissed at three.

Three o'clock. First class, a similar course.

The Wednesdays (or any other convenient day) should be devoted to elocution, composition, reading by the teacher on botany, or some other easy science, and, in pleasant weather, the teacher should accompany the school in an afternoon ramble to the woods or fields, in quest of botanical specimens, or (by permission) in visits to mills, manufactories, furnaces, &c.

The exercises of the forenoon might be arranged as follows: nine o'clock, first class, elocution, and examination of compositions, by teacher. These should be longer and more studied than those of other days. Ten o'clock. First class at written arithmetic; second class, elocution, and examination of composition, by teacher. Eleven o'clock. The whole school listen to reading on botany, or whatever interesting subject may then be on hand, followed by thorough questioning of the whole school. A few minutes should be reserved for asking each class what progress *they think* they have made in each study, during the week.

When the afternoon is unfavorable to going abroad, it may be spent, alternately, in conversation and reading of some interesting subjects; or the usual exercises may be resumed, and the afternoon walk postponed to the next fair day.

The first hour, of every Thursday afternoon, may be devoted to the principles of vocal music, illustrated on the blackboard, from the 'Manual,' of the Boston Academy. For this purpose, the large board should have the five lines of the staff painted either twice or four times across it. As soon as the children are able to sing, a song or hymn should be struck up at each signal for short relaxation from study.

Studies in the Central School.

The arrangement of the mathematical studies should somewhat depend on the *time* each student will probably have to bestow on them. If he is of such an age, as to render it probable that he can go through the whole course, perhaps the best plan will be to go through the theoretical, and then the practical, part, as follows: 1. Algebra, geometry, conic sections, differential and inte-

gral calculus. 2. Trigonometry, plane and spherical, mensuration, surveying, navigation, and civil engineering. But when the student has arrived at an age which renders it probable that he will not have time for the whole course, a different arrangement should be adopted. After algebra and geometry, should follow plane trigonometry, and then such other practical subjects, as he may have a particular call or taste for.

The dead languages should be studied at the same time with the mathematics. The extent to which they should be pursued, should also depend on the time the student will probably be able to devote to them. It should be such as to allow of the acquisition of at least one living language.

The order, in which the living languages should be studied, should be, unless peculiar circumstances call for a different arrangement, French, Spanish, Italian, German, Portuguese.

Rhetoric and the philosophy of grammar should be attended to, at the commencement of the course. All other English studies may be safely left to the care of the student himself, if his faculties have been drawn out and improved by a judicious course in the primary school. Where there is a good apparatus belonging to the school, however, lectures or reading from scientific works will be highly profitable, followed by strict questioning. The pupils should be encouraged to form an extensive botanical and mineralogical cabinet for the school. It is very desirable, that the teacher should advise his pupils, as to their course of private reading, in history, biography, metaphysics, political economy, politics, such other sciences as are not studied in school, the English classical writers, poetry, and a few of the best works of fiction.

One day in the week should be devoted to elocution and reading of compositions, which should be of a higher cast than those of the primary school, embracing criticisms on English literature.

A knowledge of ancient geography should be acquired, whilst perusing the classics, by the filling up of skeleton maps. A comparative view of ancient and modern geog-

raphy may be formed, by writing the ancient names on these skeletons, with red ink, and the modern, with black. Every student should form such maps for himself. He should also make biographical tables, on the model of those of Priestley or Le Sage.

A little time should be allowed for drawing, especially when it has been commenced in the primary school. Short musical exercises should relieve the tedium of study, at intervals, during the day.

CHAPTER X.

INTELLECTUAL EDUCATION, CONCLUDED.

Recapitulation.

In taking a retrospective view of our examination of the subject of intellectual education, may not the following be regarded as legitimate conclusions?

I. That the true mode of improving intellectual education is, to begin at the foundation; that, if the common school be elevated, the college must rise.

II. That man's chief concern on earth is EDUCATION; and that the business of schools and colleges is simply to prepare him to *enter* on his great course, with ease and effect.

III. That *reading* is the great key to knowledge; that he, who really possesses it, has every species of knowledge at command; but that, in order to render it effectual, the faculty of attention must be fully developed.

IV. That the full developement of the faculties of observation, reflection, reason, judgment, memory, imagination, and taste, is necessary to the enjoyment of all the advantages of the great SCHOOL OF NATURE.

V. That the mathematics and classical studies are both necessary, to the proper developement of these faculties.

VI. That the main objects of TEACHERS' SEMINARIES should be, teaching to *read* properly; the theory and practice of the *Art of Teaching*; the use of the *Black-*

board; the best manner of training youth in habits of Virtue; and a mode of *Discipline* founded on correct principles.

VII. That the expense of these seminaries would be a mere trifle to any State; and that, if the common schools were placed on a proper footing, they would be wanted but for a few years.

VIII. That the indispensable literary qualifications of a teacher of the primary school are reading, orthography, writing, arithmetic, geography, and the principles of composition; but that, as many other requisites are desirable, and will soon become indispensable, it is the duty of every teacher, steadily to extend and improve her knowledge.

IX. That no one, less qualified than the members of the senior class of college ought ever to be thought of as a teacher of the central school; and that we ought, as soon as possible, to look for much higher qualifications.

X. That both grades of teachers should clearly understand the *true object* of education; that they should be patterns of neatness and of order; possess uniformity of temper, decision and firmness, patience and perseverance; be pleasant, affectionate, and disposed to sympathize with children; of an unimpeachable moral character; and, to sum up the whole in one qualification, lovers and steadfast followers of TRUTH.

XI. That, in the selection of a teacher, wages should form but a secondary consideration; but that the inquiry into the moral character, and other qualifications, can never be too strict.

XII. That town and county meetings of teachers are indispensable, towards the regular *advance* of improvement in education.

XIII. That district libraries should contain a good selection of the best school-books, as well as books for circulation; and that, in order to extend the usefulness of such libraries, a regular system of mutual exchange should be adopted.

XIV. That, in order to produce habits of attention, children must *constantly*, not *occasionally*, give an account of their reading, in school, in their own words.

XV. That, in order to the attainment of orthography, children must acquire a habit of observing the form of words, *while reading*.

XVI. That giving the *a* the long, in place of the obscure, sound, and pronouncing the *h* where it ought to be silent, lead to important errors of emphasis, and, consequently, of sense; and that the want of a complete cessation of sound after points, and of sufficient variety of force and rapidity of utterance, renders reading tame and heavy, and thereby destroys its utility.

XVII. That the exercise of minutely and accurately describing pictures, gives to children a command of language, and improves their powers of observation.

XVIII. That the reading of newspapers, in schools, accompanied by suitable explanations, by the teacher, would convey much useful and practical information.

XIX. That writing and drawing should be commenced simultaneously with reading.

XX. That, in writing, legibility is a beauty of the first order, and that as much should be brought within the compass of the eye as distinctness will allow.

XXI. That, in the impressions made on the mind, by the organ of sight, the imagination plays an important part, and that to distinguish between the impressions of imagination and reality is the chief difficulty in drawing from Nature.

XXII. That drawing disciplines the eye and hand, and improves the powers of observation, memory, invention, and taste; that, by providing interesting and quiet occupation for children, it assists in preserving good discipline in families; and that it is indispensable in many professions and trades, and highly useful in others.

XXIII. That it is of the first importance in a free country, that elocution and composition should be universally cultivated, and that this can never be effectually done, unless commenced in early youth.

XXIV. That mental arithmetic forms an admirable introduction to written arithmetic; and that the latter should be based on principles, not on mechanical rules.

XXV. That the chief advantage of mental arithmetic

is the intellectual discipline it affords, to which the knowledge of the science is but of secondary importance.

XXVI. That, by the aid of abbreviations, and by proper arrangement of the subject, written arithmetic may be acquired by young children, in a very short time.

XXVII. That geography should be principally taught, by filling up skeleton maps.

XXVIII. That botany should be studied in the primary school, and that a herbarium and a folium should be formed by the pupils.

XXIX. That vocal music is of great importance, and can easily be made a branch in our primary schools.

XXX. That the mathematics, the dead languages, (followed by the living languages,) rhetoric, and the philosophy of grammar, should be studied, simultaneously, in the central school.

XXXI. That the practice of composition and elocution should be continued and extended in the central school; and that a comparative view of ancient and modern geography should be acquired, while reading the classics, by filling up skeleton maps, with the ancient and modern names in ink of different colors.

CHAPTER XI.

MORAL EDUCATION.

"Can the Ethiopian change his skin? or the leopard his spots? Then may ye also do good, who have been *accustomed* to do evil." — *Jer.* xiii. 23.

"Train up a *child* in the way he should go, and, when he is old, he *will not* depart from it."—*Prov.* xxii. 6.

We have already had occasion [Part I. Chapter VI.] to notice and lament the total want of moral education, in our primary schools; a deficiency which some have attempted to justify, from the great variety of religious faith and modes of worship existing in the community, and the danger of converting the school into an engine

of religious proselytism. But surely this is a reason which will not stand the test of examination. Because one branch of moral duty (that which relates to religious doctrine) is properly rejected, on account of this peculiarity in the state of society, does it follow that every species of moral training must be excluded? Does not this circumstance rather enhance the necessity of a peculiar attention to that part of moral instruction to which no such objection can apply? Is there not an extensive field, which may be regarded as common ground, in respect to which every portion of society, whatever be their religious belief, are perfectly agreed? Is there *any* parent, who does not desire his child to be trained to the practice of virtue, and to the avoidance of every vicious habit? that he should be inspired with veneration, gratitude, and love, to God? that he should be honest, faithful, humane, and gentle; obedient to his parents, true to his word? that he should possess moral courage and self-control; industry, perseverance, economy, and temperance; patience, fortitude, magnanimity, and cheerfulness? Surely not. On these and such like points, we shall meet with perfect unanimity.

The force of these considerations is much increased by the reflection, that moral training, to be effectual, must be commenced in *early youth*. And here we have once more to lament the same fundamental error, so repeatedly noticed in our review of intellectual education,—the adoption of a wrong course in the *first steps*. Thus, while some would frighten children into goodness, or place morality on an equally false foundation, others would leave youth almost without instruction, in the delusive hope, that *experience* will teach wisdom, that they will *know better*, as they advance in life. But, alas! what then availeth knowledge? In a state of innocence, knowledge is all in all. But, when the mind has become accustomed to guilt, which makes its approaches, perhaps, in the guise of pardonable frailties, rising, by slow degrees, into blacker and blacker shades of vice; at first, attacking only occasionally, and finally becoming settled, by habit, into a part of *man's very nature;* when the

passions, hitherto dormant, are gradually awakened, and, from the total want of resistance, are enabled to fix their roots deep in the soul; then mere knowledge is powerless. In this state of mind, hardly any thing short of miraculous power will restore man to the state of child-like innocence from which he has departed.

If, then, we would renovate society, we must not wait for the maturity of reason, and then expect to root out evil habits that have grown with our growth and strengthened with our strength. It is from the *beginnings* of vice, that we must be saved, if we would be saved from vice itself. The conscience must be developed on the first dawning of reason; it must be cultivated and strengthened by constant appeals to its jurisdiction; and a *habit* must be acquired, of listening to, and following, its monitions.*

* The following observations were intended for another meridian; but they are so applicable to our situation, that we cannot resist the temptation of copying them.

"What is the *nature* of the education of the humbler classes, which is extending in England, and has been so long established in Scotland? Is it of a kind to impart useful, practical knowledge for resource in life? Does it communicate to the pupil any light on the important subject of his own nature and place in creation; on the conditions of his physical welfare, and his intellectual and moral happiness? Does it, above all, make an attempt to regulate his passions, and train and exercise his moral feelings, to prevent his prejudices, suspicions, envying, self-conceit, vanity, impracticability, destructiveness, cruelty, and sensuality? Alas! No. It teaches him to READ, WRITE, and CIPHER, and leaves him to pick up all the rest as he may. It forms an instructive example of the sedative effects of established habits of thinking, that our ancestors and ourselves have so contentedly held THIS to be education, or the shadow of it, for any rank of society. Reading, writing, and ciphering, are mere instruments; when attained, as they rarely or never are, after all, by the working class, to a reasonable perfection, they leave the pupil exactly where he would find himself, were we to put tools into his hands, the use of which, however, he must learn as he may. We know well, that he will be much more prone to misapply his tools, and to cut himself with them, than to use them aright. So it is with his reading; for, really, any writing and accounting of this class, even the most respectable of them, scarcely deserve the name, and may be here put out of the account. Reading consists in the recognition of printed characters, arranged into syllables and words. With this most abstract accomplishment may co-exist unregulated propensities, selfish passions, sensual appetites, filthy and in-

If these views be correct, our course, here, is plain and obvious. First, we should exclude every subject, having the slightest reference to religious faith or modes of worship, confining ourselves, exclusively, to those topics which will unequivocally command the assent and approbation of all. And, secondly, we should point out the best mode of developing the moral faculties of children, of strengthening their good habits, and repressing those which tend to evil. Towards these important ends, then, shall our most zealous endeavors be directed; and, though our weak efforts may not be able to accomplish much, we shall have reason to be well satisfied, if we can only make a *beginning* in the *right course*.

Of all the moral powers, the most important is that denominated CONSCIENCE, or the faculty by which we are enabled, instinctively and instantaneously, to feel approbation of what we consider as right, and disapprobation of what we consider as wrong. This is a faculty which may and ought to be developed in very early youth; for then it is pure and uncontaminated; and not, as too frequently in afterlife, perverted by the appetites, passions, and prejudices. It is also of the first importance that it should be called into action, and be kept con-

temperate habits, profound intellectual darkness, and moral debasement; all adhering to a man as closely after, as before, he could read; and, be it marked, these qualities will give their bias to his future voluntary reading, and assuredly degrade and vitiate its character; it will tend to strengthen his prejudices, deepen his superstitions, flatter his passions, and excite his animal appetites. Well is all this known to the agitator, the quack, and the corrupter. They know, that the manual laborer can read; but they know, as well, that he is incapable of thinking, or detecting their impositions, if they only flatter his passions. No just views of life have ever been given him; no practical knowledge of his actual position in the social system. We are always told, that the majority of criminals cannot *read*, as if the mere faculty of reading would have diminished the number of criminals. This is a great delusion. For the reasons I have stated, mere reading might have increased the number of criminals; it would be quite ineffective in diminishing them. But, if the investigation had gone the length of ascertaining with which of the criminals had an attempt at moral training and useful knowledge ever been made, we should have found *that* column of the table a blank, and something like cause and effect would begin to dawn upon us. It is needless to pursue so obvious a matter further." — *Simpson, on Popular Education.*

stantly in use; for, like all the other faculties, it is cherished and strengthened by exercise, enfeebled and deadened by inaction. We see what power of muscle the arms of the blacksmith acquire, by the habitual use of the ponderous sledge; and we learn, what wonderful strength the memory attains, in those who constantly exercise that faculty. In like manner, are *all* our moral faculties strengthened by use, and weakened by disuse; and none more so than the faculty of conscience. "The more frequently we use our conscience," says President Wayland, "in judging between actions, as right and wrong, the more easily shall we learn to judge correctly concerning them. He who, before every action, will deliberately ask himself, 'Is this right, or wrong?' will seldom mistake what is his duty. And *children* may do this, as well as grown persons."

The teacher, then, who would perform his duty, by developing the moral, as well as the intellectual, faculties of his pupils, should suffer no opportunity of appealing to the conscience to pass unimproved. As an example of the manner of making such appeals, let us suppose a class was engaged in reading the following story of

THE ILL-NATURED BOY.

THERE was once a little boy, who was so unfortunate as to have a very bad man for his father, who was always surly and ill-tempered, and never gave his children either good instructions or good example; in consequence of which, this little boy, who might, otherwise, have been happier and better, became ill-natured, quarrelsome, and disagreeable to every body. This little boy had a cur dog, that was the exact image of himself. He was the most troublesome, surly creature imaginable, always barking at the heels of every horse he came near, and worrying every sheep he could meet with; for which reason, both the dog and the boy were disliked by all the neighborhood.

One morning, his father got up early to go to the tavern, where he intended to stay till night, as it was a holy-

day; but, before he went out, he gave his son some bread and cold meat, and told him, that he might go and divert himself as he would the whole day. The little boy was very much pleased with this liberty; and, as it was a fine morning, he called his dog Tiger to follow him, and began his walk. He had not proceeded far, before he met a little boy that was driving a flock of sheep towards a gate, that he wanted them to enter. "Pray, master," said the little boy, "stand still, and keep your dog close to you, for fear you frighten my sheep." "Oh! yes, to be sure," answered the ill-natured little boy; "I am to wait here all the morning, till you and your sheep have passed, I suppose! Here, Tiger, seize them, boy!" Tiger, at this, sprang forth into the middle of the flock, barking and biting on every side; and the sheep, in a general consternation, hurried each a separate way. Tiger seemed to enjoy this sport equally with his master; but, in the midst of his triumph, he happened, unguardedly, to attack an old ram, that had more courage than the rest of the flock. He, instead of running away, faced about, and aimed a blow, with his forehead, at his enemy, with so much force and dexterity, that he knocked Tiger over and over, and, butting him several times while he was down, obliged him to limp, howling, away. The ill-natured little boy, who was not capable of loving any thing, had been very much diverted with the trepidation of the sheep, and now laughed heartily at the misfortune of his dog; and he would have laughed much longer, had not the other little boy, provoked beyond his patience at this treatment, thrown a stone at him, which hit him full upon the temples, and almost knocked him down. He immediately began to cry, in concert with his dog; and, perceiving a man coming towards them, who, he fancied, might be the owner of the sheep, he thought it most prudent to escape as speedily as possible. But he had scarcely recovered from the smart which the blow had occasioned, before his former mischievous disposition returned, which he determined to gratify to the utmost. He had not gone far, before he saw a little girl leaning against a

fence, with a large pot of milk at her feet. "Pray," said the little girl, "help me up with this pot of milk. My mother sent me out to fetch it this morning, and I have brought it above a mile upon my head; but I am so tired, that I have been obliged to stop to rest me; and, if I don't return home presently, we shall have no pudding to-day; and, besides, my mother will be angry with me." "What?" said the boy, "you are to have a pudding to-day, are you, Miss?" "Yes," said the girl, "and a fine piece of roast beef; for there are uncle Will, and uncle John, and grandfather, and all my cousins, to dine with us; and we shall be very merry in the evening, I can assure you; so, pray, help me up, as speedily as possible." "That I will, Miss," said the boy; and, taking up the jug, he pretended to fix it upon her head; but, just as she had hold of it, he gave it a little push, as if he had stumbled, and overturned it upon her. The little girl began to cry violently; but the mischievous boy ran away, laughing heartily, and saying, "Good bye, little miss; give my humble service to uncle Will, and grandfather, and the dear little cousins!"

This prank encouraged him very much; for he thought, that now he had certainly escaped without any bad consequences. So he went on, applauding his own ingenuity, and came to a green, where several little boys were at play. He desired leave to play with them, which they allowed him to do. But he could not be contented long, without exerting his evil disposition; so, taking an opportunity, when it was his turn to fling the ball, instead of flinging it in the way he ought to have done, he threw it into a deep, muddy ditch. The little boys ran, in a great hurry, to see what was become of it; and, as they were standing all together upon the brink, he gave the outermost boy a violent push against his neighbor; he, not being able to resist the violence, tumbled against the next, that next against another, by which means, they all soused into the ditch together. They soon scrambled out, although in a dirty plight, and were going to punish him for his ill behavior; but he patted Tiger upon the back, who began snarling and growling, in such a manner, as

made them desist. Thus, this little mischievous boy escaped, a second time, with impunity.

The next thing that he met with was a poor jackass, feeding, very quietly, in a ditch. The little boy, seeing that nobody was within sight, thought this was an opporunity of plaguing an animal that was not to be lost; so he went and cut a large bunch of thorns, which he contrived to fix to the poor beast's tail, and then, setting Tiger at him, he was extremely diverted to see the fright and agony the creature was in. But it did not fare so well with Tiger, who, while he was baying and biting the animal's heels, received so severe a kick upon his head, as laid him dead upon the spot. The boy, who had no affection for his dog, left him with the greatest unconcern, when he saw what had happened, and, finding himself hungry, sat down by the wayside, to eat his dinner. &c. &c.

The reading of this story might be followed by such questions as these: What kind of a boy have you been reading about? What was the cause of his being so ill-natured, quarrelsome, and disagreeable? Does he deserve punishment for his pranks? Must he not be in continual fear of it? Whether should we pity or hate him? Can he be happy, with such a disposition? Can any body love him? Was it right, to set Tiger on the sheep? Who made those sheep? Will God be pleased, to see us torment or injure any of the creatures that he has made? What did the boy do to the little girl? Was that right? Can there be any real pleasure in acting so? Is it right to laugh, when we see an accident happen to any one? What should we do, when we see such an accident? When he played with the boys, what did he do with the ball? Was that right? Do you think the boys will let him play with them again? What did he do to the boys? Was that right? How would you feel, if you were to see a boy act so? Whose part, do you think, would you take? What did the boy do to the jackass? Was that right? Should you like to see boys play such tricks? Could you love such a boy? Do you think you would choose him for your playmate?

Would you like to have him live in the same house with you? Would you like to have such boys live in the town? Can a good boy delight to torment any creature? Have we a right to tease or hurt any creature, that does not belong to us? Have we a right to torment a creature that does belong to us? Why not?

But, as our school-books present us with but few moral lessons, we must not rely entirely on this source, for the developement of the conscience. Nor, in fact, would this be desirable. The little occurrences that take place in school, or come within the knowledge of the scholars, will present more useful and practical occasions for appeals to the moral sense than fictitious narratives. But even these will not happen with sufficient frequency for our purpose. It will be found highly useful, for every school to be provided with a *Table of Duties* for constant practice, and still more so, for every child to have a *Daily Record*, for the purpose of self-examination. The following are specimens of such Record and Table, with suitable explanations.

RECORD OF DUTIES FOR DAILY SELF-EXAMINATION.

THE object of the following record is to bring every child, as early as possible, to the knowledge of his duties, and assist him in their performance. It is intended to be written or printed, with blank columns for every day in the year, to be filled up by the child himself, with straight marks, (thus, I,) for faults or deficiencies, and round marks, (thus, O,) when he considers himself blameless. In addition to the daily record, there should also be two columns, in separate tables, for every week, month, and year; thus affording a summary and comparative view of the state of his mind, from one period to another, and distinctly showing, whether he is improving, stationary, or retrograding. At the end of the table should be one or two blank leaves, for reflections on the past, and resolutions for the future, by the pupil; or, when he is very young, for advice from his parent or teacher.

The manner of using the Daily Record is as follows:

Let the following questions be slowly read by the teacher to his class, at the close of school; or, in the evening, by the parents to their children; or by each child, for himself; making sufficient pause, at the end of each, for reflection as to the answer, the nature of which will suggest the kind of mark to be inserted in the column for the day. The numbers attached to the questions correspond with those annexed to the several duties in the Table. Thus, the first question, 1. Have I told any lies to-day? corresponds with the first article in the table, namely, 1. TRUTH. If, on the first day of January, the conscience answers, *No*, to this question, the pupil should put an O, *opposite* the word Truth, and *under* January 1. But if the conscience will not allow of a negative, the mark of reproof, I, should be inserted; and so with all the other duties, and the other dates.

In the weekly record, extending from one to fifty-two, (the number of weeks in a year,) there should be two columns for each week, one for the number of marks of blame, I, the other for the number of credit marks, O. Thus, if, in the daily record for the first week, there are four marks of blame opposite the word Truth, and three credit marks, they should be written thus, |4 I|3 O. The same course should be pursued with the monthly and yearly record, each of which should also have two columns.

The pupils should show the weekly, monthly, and yearly, records to their parents or teacher, who should offer encouragement, or mild reproof, or both, according to circumstances.

QUESTIONS.

1. Have I told any lies to-day? 2. Have I spoken the *exact* truth, neither more nor less? 3. Have I so spoken, as always to convey the truth to others; or so as to mislead them, although my words were really true? Is not this the same as telling a lie? 4. Have I been honest, taking nothing but what was really my own? 5. Have I used the property of my parents and others, so

as not unnecessarily to injure it? 6. Have I been obedient to my parents? 7. Have I acted as if I loved them? 8. Have I acted towards my brothers and sisters as if I loved them? 9. Do I love all my friends? 10. Have I been grateful for every mark of kindness? 11. Have I been faithful to my friends, by taking their part, when injured, either by word or deed? 12. Have I treated all my superiors in age and station with proper respect? 13. Have I allowed myself to show, or even to feel, anger or revenge? 14. Have I felt fretful or sullen? 15. Have I been polite to all,—acquaintance and friends, as well as strangers? 16. Have I been uniformly mild in my manners, and used no roughness of speech? 17. Have I been pleased to see others happy, and sorry to see others suffer, or to see them act amiss? 18. In talking or thinking of others, have I looked more at their follies or faults, than at their goodness? 19. When I have seen others injured, have I felt for them, and taken their part? 20. Have I been liberal, and ready to share with my friends and playmates? 21. Have I been ready to forgive those who have injured me? 22. Have I been careful not to injure the property of others? 23. Have I been cruel to animals? 24. Have I been ashamed or afraid to do what was right? 25. Have I acted right, even when I felt a wish to do wrong? Have I striven to gain a command over myself? 26. Have I been *very careful* to do the right, and avoid the wrong? 27. Have I been anxious to learn what was good or useful? 28. Have I idled away my time, when I ought to have been busy? 29. Have I been impatient, or have I been persevering in my studies or work? 30. Have I been careful, or wasteful, of my food, clothing, or books? 31. Have I been greedy, or ate or drunk more than was proper? 32. Have I been patient in pain, sickness, or trouble of any kind? 33. Have I been cheerful, or have I allowed myself to imagine affairs to be worse than they really were? 34. Have I allowed myself to think "how good I am," or have I looked rather to my faults, and felt sorry they were still so many? 35. Have I been neither bashful nor affected? 36. Have I kept

my dress, books, and bedroom, neat and clean? 37. Have I put my books, clothes, and tools, in their proper places? 38. Have I been anxious for improvement, both in my conduct and in my studies? 39. Do I regard my Maker with reverence and awe? 40. Do I feel very grateful for His uniform kindness? 41. Have I a strong feeling of love towards Him? 42. Do I feel a perfect confidence in His goodness and care? 43. Do I feel completely resigned to His will, assured that He always acts for the best, though I may not understand it? 44. Is my sorrow for doing wrong of such a nature, as to lead me to do right, or does it produce no change in conduct and disposition? 45, 46, 47, &c., to be filled up, at the discretion of the parents, or under their direction.

A few of these questions will require some explanation for the youngest children. It is thought better to leave this to parents or teachers, than to be very diffuse.

RECORD.

I.

1. Truth.
2. Exaggeration.
3. Sincerity.
4. Honesty.
5. Faithfulness.
6. Obedience.
7. Love to parents.
8. Brotherly love.
9. Friendship.
10. Gratitude.
11. Fidelity.
12. Respect.
13. Good temper.
14. Good humor.
15. Politeness.
16. Mildness.
17. Sympathy.
18. Charity.
19. Indignation.
20. Generosity.
21. Magnanimity.
22. Respect to property.
23. Kindness to animals.

II.

24. Moral Courage.
25. Self-control.
26. Vigilance.
27. Docility.
28. Industry.
29. Perseverance.
30. Economy.
31. Temperance.
32. Patience.
33. Cheerfulness.
34. Humility.
35. Simplicity.
36. Neatness.
37. Order.
38. Desire of excellence.

III.

39. Veneration.
40. Gratitude.
41. Love.
42. Confidence.
43. Resignation.
44. Repentance.
45.
46.
47.
48.
&c.

But this Record would form a useful exercise, not merely for the scholars; the greater part of it is equally applicable to the teacher. Should she make a selection for her own use, the following questions might be added, as referring to some of her peculiar duties.

Were my pupils punctual in attendance, to-day? Have I taken proper pains to show them and their parents the importance of punctuality, as a duty, both to themselves and to the other members of the school? Do they improve in this respect? Have I introduced cleanly and orderly habits? Has my conduct been a pattern in this respect? Has there been no rude conduct around the stove? Has the room been of the proper temperature to-day? If not, was it not owing, in some degree, to my inattention? Have I attended properly to excluding the glare of sunshine? Are the windows properly curtained? Are there a mat, scraper, pail, dipper, basin, and towel, in the room? If any of these are wanting, have I made proper representations to the committee? Have I taken sufficient pains to teach the scholars to use their books without injury? Is the discipline on the best possible footing? Do the children improve in reading? Are they fast leaving off their bad habits in this respect? Do I never neglect questioning them, as to what they have read? Do their habits of attention and observation improve? Have I taken proper pains to cause them to use right positions of hand and body, in writing? Do they make visible improvement? Do they steadily improve in elocution and composition? Do they use no grimace nor awkward motions, in the former? Are the orthography, punctuation, and grammar, properly attended to, in the compositions? Do they advance, in propriety of expression and command of language, or do I allow them to hang back, or remain stationary? Have I formed a list of local improprieties of speech? Do I frequently exercise the scholars with it? Has this exercise any practical effect, in correcting their language? Do my pupils improve in written arithmetic? Can they add long sums rapidly? Do they habitually use all the abreviations I have taught them?

Have I taken sufficient pains in this respect? Can they explain the reasons for every operation? Do I frequently call on them to do this? Do they make much progress in mental arithmetic? Do I myself perform the questions simultaneously with them? Do I frequently require them to describe and give reasons for their mental operations? Do I never allow them to have the book? Do I encourage the slow, and prevent the bright from doing more than their share? Do I see that all the pupils perform every question? Is not my classification capable of improvement? Have I given this important subject sufficient attention? Do my pupils advance in their other studies? Do they appear to love and respect me? If not, do I feel sure I am not to blame? Have I explained the nature of the Record for Self-examination to all the parents and guardians? Have I daily practised it with those whose parents have placed them, in this respect, under my care? Is there any apparent moral improvement? Do I take sufficient pains to prevent its degenerating into a mere form, by my inattention? Do I embrace every opportunity of referring my pupils to the Table of Virtues? Do I take sufficient pains in explaining the terms to the younger pupils? Do I possess uniformity of temper, decision and firmness, patience and perseverance? Am I uniformly pleasant and affectionate in my manners, and at all times disposed to sympathize with my pupils? Do I never allow myself to deviate, in the slightest degree, from truth, either in thought, word, or action?

The Table on the opposite page, printed on sufficiently legible type, in three columns, one for each species of duties, should be hung up in the schoolroom, to be studied as follows: Let a class be placed before the table, and the teacher open his 'Manual,' at the explanations given below; and then let the pupils and teacher, alternately, read the 'Duties,' and their respective explanations. The observations enclosed within brackets, [thus,] need not be read to the pupils. They are meant exclusively for teachers and parents. The younger classes will not be able to understand the explanations. They should have the Table explained by examples and illustrations.

TABLE OF THE VIRTUES, WITH THEIR OPPOSITE VICES.

I. *Duties to God.*

1. Faith.—Unbelief.
2. Veneration. — Heedlessness ; slavish dread, or superstitious fear.
3. Gratitude.—Ingratitude.
4. Obedience.—Disobedience.
5. Confidence.—Distrust.
6. Resignation.—Querulousness, despondency, fear of death.
7. Repentance.—Hypocrisy, presumptuousness.

II. *Duties to Ourselves.*

8. Moral courage.—Cowardice.
9. Self-control.—Indecision.
10. Forethought.—Want of ditto.
11. Firmness.—Obstinacy.
12. Self-examination, vigilance.—Carelessness.
13. Industry.—Indolence.
14. Prudence, circumspection. — Imprudence, rashness.
15. Discretion.—Indiscretion.
16. Vigilance.—Suspicion.
17. Providence.—Profusion, prodigality.
18. Perseverance. — Irresolution, instability.
19. Economy.—Carelessness, extravagance, or niggardliness.
20. Temperance.—Gluttony, drunkenness.
21. Contentment.—Discontent.
22. Modesty.—Indelicacy.
23. Patience, fortitude. — Impatience, pusillanimity.
24. Calmness, cheerfulness, serenity. — Irritability, fretfulness, despondency, gloom.
25. Self-respect, humility.—Pride, vanity, haughtiness, love of dominion, conceit, pedantry.
26. Desire of excellence.—Jealousy, envy.
27. Simplicity.—Bashfulness, affectation, ostentation.
28. Neatness.—Foppery, love of display.
29. Docility.—Indocility.
30. Obedient temper.—Impatience of control.

III. *Duties to Others.*

Sec. I.—Justice.

31. Truth.—Falsehood, perjury.
32. Sincerity.—Exaggeration, deceit.
33. Integrity.—Dishonesty.
34. Fidelity.—Unfaithfulness.
35. Conscientousness, respect for others' property, or rights. —Want of ditto.
36. Impartiality.—Partiality.

Sec. II.—Benevolence.

37. Social affections, viz., conjugal, parental, filial, and fraternal, love ; friendship. — Perfidy.
38. Humanity.—Inhumanity.
39. Mercy.—Unmercifulness.
40. Forbearance, placability. — Implacability, moroseness, spite.
41. Charity. — Uncharitableness, scandal, defamation.
42. Tolerance.—Intolerance.
43. Generosity, liberality.—Greediness, avarice, imprudence.
44. Kindness.—Oppression, cruelty to animals.
45. Magnanimity.—Meanness.
46. Good-temper.—Ill-temper.
47. Good-humor.—Fretfulness.
48. Indignation. — Anger, resentment.
49. Sympathy.—Selfishness, envy.
50. Politeness.—Impoliteness.
51. Affability.—Reserve.
52. Kindness in conversation. — Petulance.
53. Tenderness.—Harshness.
54. Mildness.—Rudeness.
55. Gentleness. — Obstreperousness.
56. Respect for age and station. —Want of ditto.
57. Punctuality.—Want of ditto.

On the first reading, five or six lines of the Table will suffice for a lesson, after which, let the teacher question the class closely, to see if the explanation has been thoroughly understood. This exercise should be repeated, till the whole subject is perfectly familiar. The teacher, however, should not wait till all the table is understood, before he begins to use it; for practical references will illustrate the subject better than any formal explanation. The manner of using it is as follows: Whenever an occasion offers, either in the course of reading, or in the sentiments and conduct of the pupils, or in the occurrences of the neighborhood, let the class, the school, or the individual, as the case may be, consult the table, and point out to the teacher, to what virtue or vice the action or sentiment should be referred. One or two examples will illustrate this: After the reading of the story of the 'Ill-natured Boy,' given above, the teacher may ask, "To what part of the table may this boy's conduct be referred?" *Ans.* "To inhumanity; to cruelty to animals; and to deceit, (in his treatment of the little girl.")

"Cæsar, having found a collection of letters, written by his enemies to Pompey, burnt them, without reading: 'For,' said he, 'though I am upon my guard against anger, yet it is safer to remove its cause.'"

T. To what virtues may these sentiments be referred?

C. To prudence, vigilance, magnanimity, and self-command.

T. How was his prudence shown?

C. By refusing to look at what might have made him angry.

T. His vigilance?

C. By his forethought, that the letters might have bad effects on him.

T. His magnanimity?

C. A mean man *seeks* every occasion of anger against his enemy, a *great* soul despises it.

T. His self-command?

C. By his carrying out his determination not to look at the letters, notwithstanding the temptation of knowing the counsels and plans of his enemies.

But, although no opportunity should be lost, of making such references to the Table, in order to give his pupils a facility in naming and classifying sentiments and actions, yet the teacher should ever bear distinctly in mind, that these are but subsidiary *means* of attaining our great *end*, and not the end itself. The grand object should be, the formation of a *habit* of referring *our own* emotions and actions to their proper source; a habit of constantly asking *ourselves*, "Is this right, or wrong?" A good moral teacher, then, will be continually on the watch for opportunities of leading his pupils to put such questions to themselves, and will consider the judgement they may be called on to exercise, as to others, as chiefly useful, in so far as it leads to this happy result.

The Table of Virtues is not offered, either as complete, or as classified in the best possible manner. In both respects, it is highly probable that it is imperfect. In future editions, should this work be found sufficiently useful to merit such an honor, it is to be hoped that it may be improved; and, with that view, the author will be happy to avail himself of the suggestions of practical teachers and others, who may think it worthy of notice. Meantime, however, it may be observed, that, probably, every attempt at classification will be found liable to some objection. In the present, it is readily granted, that, although there is a great convenience in referring the duties to the heads under which they stand, for the sake of easy reference, yet, in fact, ALL our duties may practically be referred to any of them. To *ourselves*, because every one is bound, both by interest and duty, diligently to seek the highest improvement of which his nature is capable; to *God*, because this is the great purpose for which he has endowed us with such valuable faculties; to *society*, because no one can be neutral, but must, by his influence and example, either prove the source of good or evil to the community. But still, it is believed, it will be found, that all, or most, of the virtues and vices in the Table, will have a greater bearing towards the class under which it is arranged, than to either of the others.

EXPLANATION OF THE TERMS IN THE TABLE.

I. *Duties to God.*

1. *Faith.—Unbelief.*—The word *faith* has many meanings. Here, it signifies, believing in a great and good Being, who made us, continually protects us, and gives us every thing that we possess. *Unbelief* is a crime, because every one may and ought to know that there is a God; and because many of our duties cannot be properly performed, unless we believe in His existence. For instance, we can neither feel gratitude for His favors, nor resignation to His will; and without these and other virtues, there is no happiness.

2. *Veneration.—Heedlessness; slavish dread, or superstitious fear.—Veneration* is the feeling we experience towards the great and good. God is its highest object. It desires to find out excellence, and to repose on it. It renders self, lowly, humble, and submissive. *Heedlessness* here refers to a total want of thought of the Supreme Being. The kind of *dread* or *fear*, alluded to, is not that salutary fear, which is derived from a knowledge of our guilt; but that, which arises from mistaken views of the character of God.

Numbers three and four require no explanation.

5. *Confidence.—Distrust.*—The former relates to the presence, the latter, to the absence, of that firm reliance, which all should repose in the unremitting kindness and watchful care of our Heavenly Parent.

6. *Resignation.—Querulousness, despondency, fear of death.—Resignation* is that calm state of mind, arising from the confidence described in the last article. *Querulousness* is a habit of mournful complaint, always more or less connected with the notion, that we are hardly or unjustly dealt with. Some otherwise good people indulge in this habit, under an idea that it renders them interesting, forgetful that it implies both ingratitude and disobedience to the will of God. "And it is to be feared, that many pious people cherish gloomy views of life, both among

themselves and their children, because they think it necessary to wean the heart from the pleasures and possessions of this world. They speak of it habitually, therefore, as a vale of tears, a path of thorns and briars, through which we must pass, in our journey to another world. This is, certainly, an erroneous view of life, and is the fruitful source of many evils. It disgusts the young and the cheerful with religion and religious people, who become associated, in their minds, with moody dulness, or revolting gloom. But the effect of these views, upon persons of a melancholy temperament, is even worse. They are apt to sink deep into the mind, and, coinciding with the tendencies of the heart, to overshadow the whole being with the dismal mist of habitual despondency. In such cases, insanity is the frequent result. And where this does not happen, where the mind is sustained by religious hope, still, how desolate is the existence of that individual, who is trained to look upon this world only as a scene of sorrow and trial! And, beside, is it not a false, unprofitable, and impious, view of existence? Has God given this world to us, as a curse? There is, doubtless, a great deal of misery in the world; but it is chiefly brought upon us by our own misconduct. And, moreover, the balance of pleasure infinitely outweighs the pain."*—*Despondency* is the same evil habit, indulged to a greater extent, and connected with the idea, that our real or imaginary sufferings are permanent. The first approaches of both should be checked and discountenanced. The *fear of death*, here alluded to, is totally unconnected with the retributions of eternity, but intimately connected with the *distrust* of our Heavenly Father, mentioned above. It arises from a fear of the pangs supposed to attend the dissolution of the connexion between the body and soul, and a sort of indistinct notion, that *man*, *himself*, not his *mere shell*, is deposited in the grave. Such expressions as, King of Terrors, the *cold* grave, the *dark* grave, &c., refer to such feelings. Blair thus alludes to them, in his beautiful poem:

* Parley's '*Fireside Education.*'

——"The grave, dread thing!
Men shiver when thou 'rt named; Nature, appalled,
Shakes off her wonted firmness. Ah! how *dark*
Thy long-extended realms and *rueful* wastes,
Where nought but silence reigns, and *night, dark night!*"

Such sentiments are false and injurious to happiness, and directly the opposite of confidence in the power and goodness of God, and cheerful resignation to His will. Young, in his 'Night Thoughts,' takes the true view of the subject:

"Why start at Death? Where is he? Death, arrived,
Is past; not come, or gone, he 's never here.
Ere hope, sensation fails; black-boding man
Receives, not *suffers*, Death's tremendous blow.
The knell, the shroud, the mattock, and the grave,
The deep, damp vault, the darkness, and the worm;
These are the bugbears of a Winter's eve,
The terrors of the *living*, not the *dead*.
Imagination's fool, and error's wretch,
Man makes a death, which Nature never made;
Then, on the point of his own fancy, falls,
And feels a thousand deaths in fearing one." — *Night* IV.

A late popular writer observes, that, "In the whole course of our observation, there is not so misrepresented and abused a personage as Death. He has been vilified, as the cause of anguish, consternation, and despair; but these are things that appertain, not unto death, but unto life. How strange a paradox is this! We love the distemper, and loathe the remedy; preferring the fiercest buffetings of the hurricane to the tranquillity of the harbor. The poet has lent his fictions, the painter his colors, the orator his tropes, to portray death as the grand destroyer, who, for a perishable state, gives us that which is eternal! Can he be styled the enemy, who is the best friend only of the best, who never deserts them at their utmost need, and whose friendship proves the most valuable to those who live the longest! Can he be termed the prince of phantoms and of shades, who destroys that which is transient and temporary, to establish that which is real and fixed! And what are the mournful escutcheons, the sable trophies, and the melancholy insignia with which we surround him, the sepulchral gloom, the mouldering carcass, and the slimy worm? These, indeed, are

the idle fears, and empty terrors, not of the dead, but of the living. The dark domain of death, we dread, indeed, to enter, but we ought rather to dread the ruggedness of some of the roads that lead to it; but, if they are rugged, they are short, and it is only those that are smooth, that are wearisome and long. But perhaps he summons us too soon from the feast of life. Be it so; if the exchange be not for the better, it is not his fault, but our own.—Or he summons us late; the call is a reprieve rather than a sentence; for who would wish to sit at the board, when he can no longer partake of the banquet, or to live on to pain, when he has long been dead to pleasure? Tyrants can sentence their victims to death, but how much more dreadful would be their power, could they sentence them to life? Life is the gaoler of the soul in this filthy prison, and its only deliverer is Death; what we call death, is a passport to life. True wisdom thanks Death for what he takes, and still more for what he brings. Let us, then, like sentinels, be ready, because we are uncertain, and calm, because we are prepared. There is nothing formidable about death, but the consequences of it, and these, we ourselves can regulate and control. The shortest life is long enough, if it lead to a better, and the longest life is too short, if it do not."

"And what is death? Death has been styled the king of terrors. But to whom? To none, surely, except the wicked and superstitious. To the disciples of enlightened piety,—the 'followers after righteousness and truth,' death is really the highest happiness.

> "'Man dives in death, in brighter worlds to rise;
> The grave's the subterranean road to bliss.'

"But what is death? Death is an exemption from the toils, the perplexities, the various ills, that 'flesh is heir to.' It is the enlargement of the soul from the narrow limits of mortality; from the oppressive restraints of an existence circumscribing its enjoyments, its observation, and intelligence, to the bounded confines of a single locality,—a mere point. Death is the affranchisement of the soul from this straitened state of inadequate enjoy-

ment, to the glorious freedom of the Sons of God ; with, probably, the freedom of ranging where it wills, throughout the boundless field of creation ; of visiting, pursuant to its own desire, every portion of that illimited expanse ; and of enjoying the ineffable delight of unconfined observation and knowledge.

" While connected to the body, with no other avenues of intelligence than the corporeal senses, the soul, in the exercise of its powers, is much restricted. The body, composed of material matter, and hence subject to the attracting influence of gravitation, naturally preponderates, in common with every other affianced substance, to its maternal earth ; and, by no possible effort, can be disengaged from this connexion. The soul, therefore, inseparably conjoined to its material tenement, participates in this restriction, and, except some indistinct perceptions of the adjacent heavens, in its views of exterior Nature, is confined, entirely, to terrestrial objects. And even of these objects, of this world's garniture and occupants, there are, doubtless, many things existing, whereof, from the destitution of organs to apprehend them, we are utterly ignorant. ' Millions of spiritual creatures walk the earth, unseen.'

" Pent up within its opaque abode, with only five, small, imperfect openings, through which to look upon surrounding Nature, and many of these objects, indubitably, from their minuteness, or immaterial nature, being uncognizable by our bodily organs, the soul, in this almost entombed state, looking abroad only through a medium so contracted and imperfect as the corporeal senses, and upon objects subtile beyond sensorial perception, must necessarily remain totally unapprised of numerous existences, even in immediate proximity to our own persons.

" But what is death ? Death is the breaking down of this intervening partition between the soul and undiscovered existences ; imparting to that spark, immortal, the unrestrained exercise of its perceptive powers ; it is the disengagement of intellectual light from material darkness ; it is that benign agency, whereby the soul, as the butterfly from the chrysalis, is set at large, to roam, observe, re-

joice, in the plenitude of its newborn being. This, when 'the good man yields his breath, for the good man never dies,' is, under the Adorable Supreme, the work of Death."

7. *Repentance.—Hypocrisy, presumptuousness.—Repentance* is such a sorrow for doing wrong, as will lead us to repair it, as far as it is in our power, and to avoid all occasions for it in future. *Hypocrisy* is of various kinds. The species here referred to, is that sort of repentance, which bears no fruit. The *presumptuousness* spoken of, is that kind which believes, or pretends to believe, that it never does wrong, and hence has no *need* of repentance.

II. *Duties to Ourselves.*

8. *Moral Courage.—Cowardice.*—The kind of *courage* here alluded to, is not physical, but mental courage,—courage to do right, and to endure such wrongs as are without remedy; courage to resist importunity and bad example, and to follow out what we deem right, in spite of the sneers of the foolish or wicked. The man who possesses this courage will never be a duellist. Moral *cowardice* is the reverse of all this. Its subject looks not to the approval of God, or of his own conscience, but to the opinions of the weaker part of his species, for the regulation of his conduct.

9. *Self-control.—Indecision.*—Of all the powers of the human mind, none, surely, is more valuable, than that of *self-control.* "He that ruleth his spirit," saith Solomon, "is better than he that taketh a city." Conquerors, who have subdued nations, have often been slaves to their appetites and passions. They overcame fleets and armies, but they could not overcome themselves. Knowledge, without the power of self-control, is utterly powerless. Paul, in his Epistle to the Romans, vii. 19, presents us with a picture of a mind in this condition. "For the good that I would, I do not; but the evil which I would not, that I do." Ovid, in his 'Metamorphoses,' has a similar idea:

"Video meliora, proboque; deteriora sequor."*

"The great principle and *foundation* of *all* virtue," says Locke, "lies in this: that a man is *able* to deny himself his own desires, cross his own inclinations, and purely follow what reason directs as best, though the appetite lean the other way."

[What is the cause of the intemperance that has desolated, ay, that still continues to desolate, our land? What is it, that carries our youth forward, with irresistible force, as soon as they are fairly engaged in a career of gaming, or in any other vicious course? Feels not the drunkard the headache, that "nails him to a noonday bed?" Sees he not, in the sad examples scattered around, the certain ruin that awaits him and his family? Feels not the gamester the

"pangs
For property stripp'd off by cruel chance?"

Yes, alas! too surely do both feel their present pain, and see their future ruin. But,

"Whosoe'er the villain takes in hand,
Their joints unknit, their sinews melt apace,
As lithe they grow as any willow wand,
And of their vanquished force remains no trace."
Castle of Indolence.

The efforts of the Temperance Society have been highly praiseworthy, and the results truly wonderful. Yet, after all, they have only been hacking at one of the *branches* of the great Tree of Vice which overshadows the land. Let their efforts be crowned with complete success, so as to render unnecessary the machinery of periodicals, agents, and pledges; and, before the lapse of another generation, the branch at which they had been hewing would begin again to throw out its shoots as vigorous as ever. It is only by the constant, unwearied use of the axe, that it can be kept within bounds. But let the Society, without withdrawing their attention from the branch they have so sorely mangled and lopped, let them now attack the *root* with the same spirit and force that have hitherto character-

* I see and approve the better, yet follow the worse.

ized their proceedings, and should we not have reason to expect, with the blessing of God, the downfal of the whole tree? But, dropping our metaphor; is not the root of most, or of all the evils that beset mankind, a want of the *habit* or *power* of *self-control*? Is it not possible, by a course of training in *early youth*, to bestow, on all, more or less of this most important gift? Is not the great mass of the community in *total ignorance* as to *any* means of producing this effect? And could the vast amount of talents and wealth which the Temperance Society have at command be better employed, than in enlightening the community on this most important subject? Would not this be one of the surest means of rooting out intemperance? The difference between the present efforts and the one recommended, is, that, by the former, the snake is only scotched, by the latter, killed, or, at least, deprived of its power of mischief. The former have got the monster down, and, as long as the struggle is continued, he can be kept down; but let them relax, and leave him to himself, he will recover breath, rouse himself, and, sooner or later, be as mischievous as ever. The latter would pull out his fangs, and render him for ever harmless. But the main advantage of the latter lies in this: that, when we have once succeeded in the introduction of a course of discipline which shall be really efficient, in establishing the supremacy of the mind over the body, it is done forever. For, notwithstanding the assertions of some grumblers, the course of mankind *is* still upward. Any essential improvement in education, now that literature is so universally diffused, can never be lost, can never be abandoned, except for a better. We may fly from one *extreme* to another; from an excess of severity to an excess of laxity, and *vice versa*. But we shall move to and fro, only because both are wrong. Once place us *right*, and there we shall stay.

"The great purpose of all good education and discipline," says Dr. Channing, "is to make a man *master of himself*, to excite him to act from a *principle in his own mind*, to lead him to *propose his own perfection*, as his supreme law and end." Blessed will be the day which

shall see so powerful an engine as the Temperance Society devoting its energies to enlighten the community, as to the best and easiest mode of developing the most important of all the faculties; when the pulpit, the press, and the forum, shall unite, to throw their focal rays on that portion of domestic education which teaches how to make the rising generation *masters* of *themselves*, to give the intellectual and moral faculties the supremacy over the animal nature! Meanwhile, let us contribute our humble mite, by endeavoring to show how the primary school may be brought to aid in this noble cause; and, however small our contribution may prove, if it should be found of any value, may we not hope for its extension and improvement by abler pens.]*

The only sure method, of acquiring the *habit of self-control*, is by *practice* in *early youth*. Opportunities of self-denial must be sought out, and youth must be encouraged to practise it daily. Such practice, however, to be useful, must be entirely voluntary; and children should be led, as soon as possible, to undertake it, without prompting. Every example met with, in the course of their reading, should be minutely examined and dwelt on, and the pupil should be asked, whether he thought he could do the like. Many noble instances of this virtue are to be found in the history of ancient Rome. The pupil should also be encouraged to the endurance of pain, by good advice and suitable examples.

* The following observations are from Dr. A. Combe's admirable work on the Physiology of Digestion. "It seems to me that much more might be accomplished, if we did not confine ourselves so exclusively to the mere inculcation of abstinence from intoxicating liquors, but concerned ourselves more in improving the *general character*, as the surest road to reformation, and in providing *resources*, by means of which, the reformation, when once effected, might be fully confirmed. The temperance which is produced by elevation of mind, and an *improved state of moral feeling*, will be not only much more beneficial in its consequences, but infinitely more proof against temptations, than that which is observed merely in fulfilment of a vow; and, unless something be made to come in the *place of the enjoyment* which is withdrawn, the danger of a relapse will continue to be great." May we not anticipate, that the delights of literature will supply the place of those social enjoyments, so generally connected with the excesses of intemperance?

The great difficulty, in the acquisition of self-command, lies in the commencement. Let a child once feel that he *can* overcome temptation, and he will speedily acquire a spirit of confidence, that will enable him to triumph over every obstacle.

Indecision is a species of the moral cowardice, described in the preceding article. He who is subject to it may possibly *attempt* many things, but his wavering mind, turned aside by every petty obstacle, can accomplish nothing valuable. His place is among the common herd, who follow wherever their leader directs.

10. *Forethought.*—*Want of forethought.*—This virtue is intimately connected with that of *self-control.* Neither is complete without the other. Some persons may be said to live exclusively in and for the present. It is all in all to them. They neither look before nor behind.

Children should be early accustomed to look forward, and to make their little sacrifices in view of a greater future good. Most of the moral blunders that men commit, are owing to their affixing too great importance to the present moment, and never looking ahead. Let us be happy to-day, provided it does not prevent our being happy to-morrow, is a maxim founded on true philosophy. In the language of the poet,

"Pleasure, we *all* agree, is man's chief good;
Our only contest, what deserves the name.
Give pleasure's name to nought, but what has passed
The authentic seal of reason, which defies
The tooth of time; *when past, a pleasure still.*
Dearer on trial, lovelier for its age,
And doubly to be prized, as it promotes
Our future, while it forms our present, joy.
Some joys the future overcast, and some
Throw all their beams that way, and gild the tomb.
Some joys endear eternity; some give
Abhorred annihilation dreadful charms.
Are rival joys contending for thy choice?
Consult thy *whole existence,* and be safe;
That oracle will put all doubt to flight."— *Young.*

11. *Firmness.*—*Obstinacy.*—The former may be called perseverance in a good cause; the latter, perseverance in a wrong one. The man of firmness listens to reason; the obstinate man shuts his ears.

12. *Self-examination, vigilance.—Carelessness.*—These virtues have been sufficiently noticed under the head of 'The Record.' By *vigilance*, is here meant a careful watchfulness over one's self.

13. *Industry.—Indolence.*—Habits of industry cannot be too early formed. But we fear that our primary schools have hitherto rather assisted in forming the opposite habit of *indolence*. Work while we work, and play while we play, should be the motto. Teachers cannot be too much on their guard on this subject. The importance of cultivating industrious habits in youth, derives much force from the consideration, that God could just as easily have provided sustenance for us without, as with, our coöperation. But where, then, would have been the happiness that flows from the numerous virtues dependent upon this provision of Nature, such as temperance, honesty, disinterestedness, benevolence, patriotism, the filial, parental, and conjugal, duties, all of which derive their very existence from the necessity of laboring for support? But, although industry is undoubtedly a virtue, it may, by excess, run into a vice. There are many, who make themselves completely the slaves of business; who seem to think, that life was given for the sole purpose of acquiring and securing property. Such persons make the same mistake with the miser; the only difference is, that the latter gloats over his gold, the former, over his houses, lands, and other possessions. Both mistake the *means* for the *end*; a mistake, by the way, discernible in most of the follies of life, and on which a volume might be written, without exhausting the subject. Industry, then, is to be encouraged and commended; but it is not to be converted into an idol, upon whose altar our health, or the whole of our time, is to be sacrificed. A sufficiency of time should be reserved to ourselves, and allowed to others, not only for the performance of our duties to God, but for mental recreation and improvement, and the cultivation of all the social affections.

14. *Prudence, circumspection.—Imprudence, rashness, timidity.*—One of the ancient philosophers says, "*Begin* nothing, of which you have not well considered the *end*."

"Take care of *irrevocable* deeds." This is the substance of these virtues. Early culture is here particularly desirable, because both are repugnant to the natural habits and feelings of the young. Never fail to apply every case that occurs, either in action or in reading, to the table.

15. *Discretion.*—*Indiscretion.*—This virtue is of the same nature with those last mentioned, but less in degree.

16. *Vigilance.*—*Suspicion.*—In this connexion, *vigilance* signifies a watchfulness of the conduct of others. It sometimes runs into the extreme of *suspicion*, which is a mean vice.

17. *Providence.*—*Profusion, prodigality.*—Another virtue of the same species, but including action. The bee, the ant, and the beaver, are *provident*. This virtue is also intimately connected with those in numbers 9 and 10,—Self-control and Forethought. Each is necessary to the perfection of the others.

18. *Perseverance.*—*Irresolution, instability.*—Youth has, naturally, more courage than *perseverance*. It is prone to idolize genius, and to despise pains-taking, plodding industry. It wants to accomplish, in a short period, enterprises which require much time; and to effect, by one brilliant achievement, objects which cost others many painful efforts. But this is contrary to the laws of Nature. All that is great, and noble, and lasting, is the result of time, and persevering resolution. He who expects it will be otherwise in his own case, will, in general, be miserably disappointed. He may have courage to grapple with the greatest difficulties for a moment; but, if he has not resolution to struggle with them as long as they stand in his path, he must be content with obscurity.

Property may be gained by speculation, or by fraud; but, when acquired in this way, it is, often, soon scattered. In gaining an estate by patient industry, a man usually forms economical and thrifty habits, which keep him from squandering what he has gotten. His mind becomes gradually suited to his change of circumstances, and he does not launch out into extravagant and ruinous expenses. But, when a man grows rich by some lucky speculation, or in some similar way, he is not prepared to bear this

sudden change of circumstances. He is too much elated by prosperity. He is apt to feel, that there is no end to his riches. He thinks there is, in his case, no need of economy, it is so easy to get money. As the proverb says, "Light come, light go." He ventures upon expenses which are beyond his income, and is soon reduced to want. Or, perhaps, his successful speculation has made him feel that the gains of industry and economy are too slow; that others may plod on in the old road of frugality and labor, but he will take a shorter and easier road to wealth. So he runs other hazards; but fails in his calculations. Grown desperate by disappointment, he ventures on other schemes, still more hazardous, and plunges into ruin.

God often so orders events, that estates, gotten by grinding the poor and the fatherless, or by defrauding creditors, are soon wasted. Sometimes, the same love of display, or the same ambition, which causes persons to be dishonest, leads them to a style of living beyond their means. Sometimes they resort to the bottle, for relief from the stings of conscience, become intemperate, make bad bargains, spend their property, and die beggars. And, even if they continue to keep their money, they often do not enjoy it. They find they are neither loved nor respected by their neighbors and acquaintance; and that even the poor, honest man holds a higher station in society than they.

As, then, perseverance is not, naturally, the virtue of youth, it is the more incumbent on instructers to take efficient measures for exciting and promoting it. The words, "Try; try again;" should be inscribed in some conspicuous situation in the schoolroom, and the pupil's attention directed to them, in every case of difficulty. Perhaps the following lines might be found useful, if committed to memory by the school; and, still better, if the words were arranged to appropriate music, and occasionally sung. The two following illustrations might also be read and commented on, and followed up by others, drawn from history and biography. This object should also be kept in view, in the study of arithmetic,

and other branches of mathematics, and the languages. The teacher should avoid giving assistance or explanations too readily, but rather lead the student to finding out for himself, by appropriate questions; thus bringing intellectual training to aid in the formation of the moral character. The opposite vices, *irresolution and instability*, refer, the former, to a wavering before action, the latter, to the too easy abandonment of useful projects.

TRY, TRY AGAIN.

'T is a lesson you should heed,
Try, try again;
If at first you don't succeed,
Try, try again;
Then your courage should appear,
For, if you will persevere,
You will conquer, never fear;
Try, try again.

Once, or twice, though you should fail,
Try, try again;
If you would, at last, prevail,
Try, try again;
If we strive, 't is no disgrace,
Though we may not win the race;
What should you do in the case?
Try, try again.

If you find your task is hard,
Try, try again;
Time will bring you your reward,
Try, try again;
All that other folks can do,
Why, with patience, should not you?
Only keep this rule in view,
TRY, TRY AGAIN.

ILLUSTRATIONS OF THE VIRTUE OF PERSEVERANCE.

1. TIMOUR THE TARTAR was once forced to take shelter from his enemies in a ruined building, where he sat alone, for many hours. To divert his mind from his hopeless condition, he fixed his observation on a little ant, that was carrying a grain of corn, larger than itself, up a high wall. He numbered the efforts it made to ac-

complish this object. The grain fell *sixty-nine* times to the ground, but the insect persevered, and, the seventieth time, it reached the top of the wall. This sight gave him courage at the moment it was most needed, and he never forgot the lesson it conveyed.

A somewhat similar story is related of Robert Bruce and a spider, in Scott's 'Tales of a Grandfather,' vol. I.

2. Edmund Stone was an eminent mathematician, who lived about a century ago. His father was gardener to the Duke of Argyle, who, walking one day in his garden, observed a Latin copy of Newton's 'Principia' lying on the grass, and, thinking it *must* have been brought from his own library, called some one to take it back to its place. Upon this, Stone, who was then in his eighteenth year, claimed the book as his own. "Yours?" replied the Duke, "do you understand geometry, Latin, and Newton?" "I know a little of them," replied the young man. The Duke was surprised; and, having a taste for the sciences, he entered into conversation with the young mathematician. He asked him several questions, and was astonished at the force, the accuracy, and the candor of his answers. "But how," said the Duke, "came you by the knowledge of all these things?" Stone replied, "A servant taught me, ten years since, to read. Does one need to know any thing more than the twenty-four letters, in order to know every thing else that one wishes?" The Duke's curiosity redoubled: he sat down on a bank, and requested a detail of the whole process by which he had become so learned. "I first learned to read," said Stone; "the masons were then at work upon your house. I approached them one day, and observed that the architect used a rule and compasses, and that he made calculations. I inquired what might be the meaning and use of these things, and I was informed that there was a science called arithmetic. I purchased a book of arithmetic, and I learned it. I was told there was another science, called geometry. I bought the necessary books, and I learned geometry. By reading, I found that there were good books in these two sciences, in Latin. I bought a [grammar and] dictionary,

and I learned Latin. I understood, also, that there were good books of the same kind in French. I bought a [grammar and] dictionary, and I learned French. And this, my lord, is what I have done. It seems to me that we *may learn every thing*, when we know the twenty-four letters of the alphabet."

19. *Economy.—Carelessness, extravagance, niggardliness.*—Economy has not unreasonably been ranked among the virtues; for, like the others, it implies self-control, and is productive of the happiest consequences. The good education of children, physical, intellectual, and moral; the careful attendance of old age; the calmness of mind, so necessary to the good conduct of middle life; and that independence of circumstances, which alone can completely secure against mercenary motives, are all referrible to this quality. Lessons of carefulness and economy cannot be too often repeated in our schools; for the contrary habits of carelessness and wastefulness, notwithstanding all the advantages this nation enjoys, have already done immense mischief. Many families waste and throw away nearly as much as they use; probably one third of the expense of housekeeping might be saved by system and frugality. The teacher, however, should be careful to draw the line distinctly between economy and niggardliness; between the frugal man and the miser. "There is," saith Solomon, "that scattereth, and yet increaseth; and there is that withholdeth more than is meet, but it tendeth to poverty." The picture presented to the child should be, not the miser, denying himself the means of living; but the farmer and mechanic, enabled, by the assistance of the capital arising from his economical habits, to acquire a constantly-increasing measure of leisure, and of the comforts of life, with a decreasing amount of labor.

20. *Temperance.—Intemperance.*—Excessive indulgence in sensual pleasures, of any kind, is not merely injurious by the positive evil it creates. It not only destroys the health, and has an injurious influence on the capacity for usefulness, but it destroys the taste for intellectual pleasures, and has a fatal effect on every virtuous habit.

He, who has abandoned himself to sensual pleasures, has weakened every faculty of his mind, and has rendered himself, in a greater or less degree, incapable of resisting any seduction from moral good. Man, however, is continually liable to run into extremes. In avoiding one species of intemperance, we should beware of going too far, of passing the bounds of temperance, and returning to the same vice, on another tack. Temperance signifies *moderation*: both of the opposite extremes are intemperance. There are two species of this vice, however, in which it is impossible to run into an extreme, and from both of which youth need an especial warning in early life. These are, the use of tobacco, in any shape, and drinking, not for nourishment, but for pleasure. The pernicious effects of habits of this nature have been so repeatedly and fully pointed out, that no teacher can want instruction on these points. Only let it be remembered, that *prevention is better than cure*. Wait not for the appearance of the evil, before the warning is given. In many cases, it may then be too late.

It is the great error of mankind, that, in the pursuit of happiness, they commonly seek for it in *violent* gratifications, in pleasures too intense in their degree to be of long duration, and of which even the frequent repetition blunts the capacity of enjoyment. There is no lesson more useful to mankind, than that which teaches, that the most rational happiness is averse from all turbulent emotions; that it is serene and moderate in its nature; that its ingredients are neither costly in the acquisition, nor difficult in the attainment, but present themselves almost voluntarily to a well-ordered mind, and are open to every rank and condition of life, where absolute indigence is excluded.

Man is possessed of a twofold nature. Like the inferior creatures, he has pleasure in eating, drinking, sleeping, and exercising his limbs; and one of the greatest obstacles to improvement is, that most of the race are contented with these enjoyments, and consider it painful to be compelled to seek higher sources of gratification. But to man's *animal* nature have been added, by a boun-

tiful Creator, *moral* sentiments and *reflecting* faculties, which not only place him above all other creatures on earth, but constitute him a different being from any of them,—*a rational and accountable creature*. These faculties are his highest and his best gifts, and the sources of his purest and most intense pleasures. They lead him, directly, to the great objects of his existence, obedience to God and love to his fellow-men. But this peculiarity attends them, that, while his animal faculties *act powerfully of themselves*, his rational faculties require to be *cultivated*, *exercised*, and *instructed*, before they will yield their full harvest of enjoyment.

The *intellectual* pleasures have this peculiar and superlative advantage over those that are merely sensual, that the most delightful of the former require no appropriation of their objects in order to their enjoyment. The contemplative man, who is an admirer of the beauties of Nature, has an ideal property in all its objects. He enjoys the hill, the vale, the stream, the wood, the garden, with a pleasure more exquisite, because more unalloyed, than that of their actual possessor. To him, each enjoyment is heightened by the sense of that unremitting bounty which furnishes it; nor is he disquieted by the anxiety of maintaining a possession of which he cannot be deprived. How truly may he exclaim with the poet:

> "I care not, Fortune, what you me deny;
> You cannot rob me of free Nature's grace;
> You cannot shut the windows of the sky,
> Through which Aurora shows her brightening face;
> You cannot bar my constant feet to trace
> The woods and lawns, by living streams, at eve;
> Let health my nerves and finer fibres brace,
> And I their toys to the *great children* leave;
> Of fancy, reason, virtue, nought can me bereave."
>
> *Castle of Indolence.*

21. *Contentment.—Discontent.*—"When a lad, an old gentleman took the trouble to teach me some little knowledge of the world. With this view, I remember, he one day asked me, When is a man rich enough? I replied, when he has a thousand pounds. He said, No. Two thousand? No. Ten thousand? No. Twenty

thousand? No. A hundred thousand? which I thought would settle the business; but he still continued to say, No. I gave it up, and confessed I could not tell; but begged he would inform me. He gravely said, *when he has a little more than he has*, and that is,—never! If he acquires one thousand, he wishes to have two thousand; then five, then ten, then twenty, then fifty; from that his riches would amount to an hundred thousand; and so on, till he had grasped the whole world; after which he would look about him, like Alexander, and weep for other worlds to possess."

But there are other causes of discontent, besides those arising from our circumstances. And, perhaps, one of the most prominent of these relates to the weather. It is either too hot or too cold, too wet or too dry. But it is not Nature that mistakes about the weather, but ourselves. What sort of effect would it produce in the world, if such things were regulated by fallible human perception of what is best? Could we trust them in any other person's hands, or would any person trust them in ours? The following just remarks are extracted from the philosophical lectures of the late Dr. Smith, of Princeton, N. J. "It has been frequently and justly remarked, that the universe is governed by general and constant laws, which never change their operation according to the desires of men, or convenience of particular parts of the system, which sometimes appear to be productive of accidental and partial ills. A tempest here, a drought there, a contagion, or an earthquake, may involve individuals in distress; but the fixed and unvarying laws of the physical world are among the greatest blessings to mankind. Among other benefits, they lay a foundation for the existence of the most useful sciences, which could have no principles on which to rest in a providence of expedients and accommodations to individual convenience. They serve to awaken inquiry; to exercise ingenuity; to encourage industry; to afford principles on which to ground a prudent foresight and precaution, and to promote the exercise of all the virtues which are assisted by the stability of Nature."

Another fertile source of discontent is the *supposed* inequality and mystery attending the dealings of Providence. But such appearances will vanish, when the *general laws* of Nature are properly scanned. These laws may be divided into three great classes,—physical, organic, and moral,—each of which operates independently of the other two. Each requires obedience to itself. Each, in its own specific way, rewards obedience, and punishes disobedience. And happiness can be attained, solely, by obedience to *all* these Divine institutions. If we neglect, or attempt to counteract, the physical and organic laws, we shall suffer for our folly, however pure and noble may be our moral conduct. And, on the other hand, however attentive we may be to the laws which govern our frame, we can never be happy, if our moral and intellectual nature be neglected. Let us suppose, for instance, that of two vessels, sailing from the same port, at the same time, and for the same island in the Pacific, one, which was entirely unseaworthy, had on board, missionaries, who had sacrificed all their prospects for the service of God, and the best interests of the human race; while the other was laden with rum, and manned with monsters of iniquity. Could it be considered a mystery, if the same hurricane which sent the unseaworthy missionary ship to the bottom, should carry the sound vessel, with its lading of iniquity, safely, to its destined port? Again: would it imply any mystery or inequality in the ways of God, should a man, who observed the rules of temperance and of exercise, enjoy robust health, and attain a green old age, although he might cheat, lie, and blaspheme; while another, who violated these rules, should suffer constant pain and sickness, and sink into a premature grave, however pure and holy his conduct? Certainly not. If we violate the physical and organic laws, we shall receive the appropriate punishments of pain, sickness, and premature death, as certainly as we shall suffer from violations of the moral code. To be happy, we must fulfil *all* the laws to which our Divine Governor has subjected us. And the punishment annexed to a breach of the one, implies no more

mystery or instability, than those annexed to a breach of the others.

Let our teachers, then, and, more especially, our primary teachers, endeavor to check this too prevalent disposition to discontent, by their own example, and by improving every suitable occasion of exposing its folly and unreasonableness. They will thus much increase the stock of happiness; for, although apparently trifling, the occasions of discontent occur so frequently, as to form, in the aggregate, a large mass, which must have a material effect on the happiness of society.

22. *Modesty.—Indelicacy.*—What a beautiful trait in all, but especially in the female sex, is modesty! and how disgusting the opposite vice! But modesty does not consist, as some appear to imagine, in the choice of *words*. On the contrary, too great a fastidiousness in expression betokens rather a *want* of delicacy in ideas. Fortunately, this kind of folly is fast wearing out, through the example and influence of such writers as Mrs. Barbauld and Miss Edgeworth, who, in their valuable writings for youth, always give to every thing its proper name, without periphrasis. It is truly laughable, to observe how far this sort of squeamishness can be carried. Of some species of animals, it is considered an outrage against decency to pronounce the name of the male; of others, that of the female; of others, again, the names of neither male nor female are admissible; while, strange to say, there are many, of which the names of neither sex are offensive. All such follies flow from false delicacy. They are the very reverse of modesty, which consists in purity of ideas.

23. *Patience, fortitude.—Impatience, pusillanimity.*—These two virtues bear such a resemblance to each other, as to allow of being included in one article. Both signify a virtuous endurance of pain and assaults. The former has more relation to *time*, than the latter.

24. *Calmness, serenity, cheerfulness. — Irritability, fretfulness, gloom, despondency.*—These pleasant states of mind, are the results and rewards of the other virtues that have been noticed. Speaking of the opposite vices of fretfulness, &c., Sullivan, in his 'Moral Class-book,'

says, "Many persons pass much of their time in a state of inquietude and constant irritation, although they are in health, and have the means of satisfying the common wants of life, and even abundantly. As to the present, they have some unreasonable desire, which cannot be satisfied; or which cannot be, without causing a suffering more intolerable than the unsatisfied desire. As to the past, they dwell on the memory of some good, which they think might have been obtained; or on some wrong or blunder, by which some good was lost. As to the future, they dread some possible evil, and the more, because of the uncertainty of its nature, and of the time and manner of its coming, and which may never come. There are many persons, who are habitually discontented. They find every thing goes wrong. The weather is bad; their food is not as they would have it; no one does any thing in the right time, or right manner; or that is done, which should not be; or that is omitted, which should be done. Such persons are always groaning, sighing, or grumbling. They dislike every body, and every body dislikes them."

With respect to those persons, whose fretfulness and gloom arise from their circumstances and station, Mrs. Barbauld, in her Essay against 'Inconsistency in our Expectations,' has presented some views, which are well worthy of their consideration. "We should consider the world," says she, "as a great mart of commerce, where fortune exposes to our view various commodities,—riches, ease, tranquillity, fame, integrity, knowledge. Every thing is marked at a settled price. Our time, our labor, our ingenuity, are so much ready money, which we are to lay out to the best advantage. Examine, compare, choose, reject; but stand to your own judgment; and do not, like children, when you have purchased one thing, repine that you do not possess another, which you did not purchase. Such is the force of well-regulated industry, that a steady and vigorous exertion of our faculties, directed to one end, will generally insure success. Would you, for instance, be rich? Do you think that single point worth the sacrificing every thing else to? You may then be rich. Thousands have become so, from the lowest

beginnings, by toil, and patient diligence, and attention to the minutest articles of expense and profit. But you must give up the pleasures of leisure, of a vacant mind, of a free, unsuspicious temper. If you preserve your integrity, it must be a coarse-spun and vulgar honesty. Those high and lofty notions of morals, which you brought with you from the schools, must be considerably lowered, and mixed with the baser alloy of a jealous and worldly-minded prudence. You must learn to do hard, if not unjust, things; and, for the nice embarrassments of a delicate and ingenuous spirit, it is necessary for you to get rid of them as fast as possible. You must shut your heart against the Muses, and be content to feed your understanding with plain, household truths. In short, you must not attempt to enlarge your ideas, or polish your taste, or refine your sentiments; but must keep on, in one beaten track, without turning aside, either to the right hand or to the left. 'But I cannot submit to drudgery like this. I feel a spirit above it.' 'T is well: be above it, then; only do not repine that you are not rich.

"Is knowledge the pearl of price? That, too, may be purchased, by steady application, and long, solitary hours of study and reflection. Bestow these, and you shall be wise. 'But,' says the man of letters, 'what a hardship is it, that many an illiterate fellow, who cannot construe the motto of the arms on his coach, shall raise a fortune, and make a figure, while I have little more than the common conveniences of life!' *Et tibi magna satis!* Was it in order to raise a fortune, that you consumed the sprightly hours of youth in study and retirement? Was it to be rich, that you grew pale over the midnight lamp, and distilled the sweetness from the Greek and Roman spring? You have, then, mistaken your path, and ill-employed your industry. 'What reward have I, then, for all my labors?' What reward! A large, comprehensive soul, well purged from vulgar fears, and perturbations, and prejudices; able to comprehend and interpret the works of man,—of God. A rich, cultivated, flourishing mind, pregnant with inexhaustible stores of entertainment and reflection. A perpetual spring of fresh ideas; and the

conscious dignity of superior intelligence. Good heaven! and what reward can you ask besides?

"'But, is it not some reproach upon the economy of Providence, that such a one, who is a mean, dirty fellow, should have amassed wealth enough to buy half a nation?' Not in the least. He made himself a mean, dirty fellow, for that very end. He has paid his health, his conscience, his liberty, for it; and will you envy him his bargain? Will you hang your head, and blush, in his presence, because he outshines you in equipage and show? Lift up your brow with a noble confidence, and say to yourself, I have not these things, it is true; but it is because I have not sought, because I have not desired, them; it is because I possess something better. I have chosen my lot; I am content and satisfied.

"You are a modest man; you love quiet and independence, and have a delicacy and reserve in your temper, which renders it impossible for you to elbow your way in the world, and be the herald of your own merits. Be content, then, with a modest retirement, with the esteem of your intimate friends, with the praises of a blameless heart, and a delicate, ingenuous spirit; but resign the splendid distinctions of the world, to those who can better scramble for them.

"The man, whose tender sensibility of conscience, and strict regard to the rules of morality, make him scrupulous and fearful of offending, is often heard to complain of the disadvantages he lies under, in every path of honor and profit. 'Could I but get over some nice points, and conform to the practice and opinion of those about me, I might stand as fair a chance as others for dignities and preferment!' And why can you not? What hinders you from discarding this troublesome scrupulosity of yours, which stands so grievously in your way? If it be a small thing to enjoy a healthful mind, sound at the very core, that does not shrink from the keenest inspection; inward freedom from remorse and perturbation; unsullied whiteness and simplicity of manners; a genuine integrity,

'Pure, in the last recesses of the mind;'

if you think these advantages an inadequate recompense for what you resign: dismiss your scruples this instant, and be a slave-merchant, a parasite, or,—what you please."

To those whose gloom arises from more general views of life, the following verses, from an English periodical, may suggest wiser and more correct sentiments:

THE WORLD.

"Talk who will of the world as a desert of thrall,
Yet, yet, there is bloom on the waste;
Though the chalice of life hath its acid and gall,
There are honey drops, too, for the taste.

"We murmur and droop, should a sorrow-cloud stay,
And note *all the shades* of our lot;
But the rich scintillations that brighten our way,
Are basked in, enjoyed, and *forgot*.

"Those who look on mortality's ocean aright
Will not moan o'er each billow that rolls,
But dwell on the glories, the beauties, the might,
As much as the shipwrecks and shoals.

"How thankless is he, who remembers alone
All the bitter, the drear, and the dark!
Though the raven may scare, with its wo-boding tone,
Do we ne'er hear the song of the lark?

"We may utter farewell, when 'tis torture to part;
But, in meeting the dear one again,
Have we never rejoiced, with that wildness of heart,
Which outbalances ages of pain?

"Who hath not had moments so laden with bliss,
When the soul, in its fulness of love,
Would waver, if bidden to choose between this
And the Paradise promised above?

"Though the eye may be dimmed with its grief-drop awhile,
And the whitened lip sigh forth its fear,
Yet pensive, indeed, is that face, where the smile
Is not oftener seen than the tear.

"There are times when the storm-gust may rattle around;
There are spots where the poison-shrub grows;
Yet are there not hours when nought else can be found
But the south wind, the sunshine, and rose?

"O haplessly rare is the portion that 's ours,
And strange is the path that we take,

If there spring not beside us a few precious flowers,
To soften the thorn and the brake.

"The wail of regret, the rude clashing of strife,
The soul's harmony often may mar;
But I think we must own, in the discords of life,
'Tis ourselves that oft waken the jar.

"Earth is not *all* fair, yet it is not *all* gloom;
And the voice of the grateful will tell,
That He who allotted Pain, Death, and the Tomb,
Gave Hope, Health, and the Bridal as well.

"Should fate do its worst, and my spirit, oppressed,
O'er its own shattered happiness pine,
Let me witness the joy in another's glad breast,
And some pleasure *must* kindle in mine.

"Then say not the world is a desert of thrall;
There is bloom, there is light on the waste,
Though the chalice of life hath its acid and gall,
There are honey-drops, too, for the taste."

25. *Self-respect, humility.—Pride, vanity, haughtiness, love of dominion, conceit, pedantry.—Self-respect* is not a very happy term for this trait of character. It means such a sense of the dignity of man's nature, as will be an effectual preservative against its debasement. "A due sense of the dignity of man," says Dr. Young, in the 'Centaur not Fabulous,' "evidently includes the whole of our duty. It inspires high veneration and great gratitude to God who gave it; it inspires a reverence for ourselves, which is of the utmost moment to our character and peace; and it inspires a proper regard for all mankind, as equal sharers in it; which regard would prevent infinite mischief, and banish half the miseries of life." Self-respect always looks forward, never behind. It looks upward, to a high standard of perfection, which it has formed in its own mind, and towards which it continually strives with all its energies. When we do look back on our course, it should be with *humility;* it should be to compare our doings with the standard we have set before us. Our feeling should be, not *pride*, that we have done so much, but mortification, that we have so far fallen short, and determined resolution to do better, in future. *Haughtiness* is the abuse of the sentiment of self-respect.

It looks on the rest of mankind as inferior, instead of joint occupants of the dignified station in which God has placed us. *Love of dominion* requires no explanation. *Vanity*, *conceit*, and *pedantry* refer to displays of our fancied gifts or acquirements. Vanity commonly relates to the body, conceit, to the mind; pedantry is a boastful display of learning. All three are disgusting, and can only excite contempt.

26. *Desire of excellence.—Jealousy*, *envy*.—He, who possesses this virtue, desires to be elevated, but not by the depression of others. His object is the improvement of his own mind. The *jealous* and the *envious* also desire to rise, but it is at the expense of their neighbors, whose acquirements and possessions are to them a source of pain. Desire of excellence is a source of happiness; jealousy and envy, of nothing but wretchedness.

27. *Simplicity.—Bashfulness*, *affectation*, *ostentation*. —These qualities relate to manners. *Simplicity* of manners arises from a proper degree of humility. Its possessor is not puffed up with ideas of his own consequence. *Bashfulness*, *affectation*, *and ostentation*, all spring from the same root,—too much self-contemplation, and overweening ideas of our own consequence.

28. *Neatness.—Foppery*, *love of display*.—These traits relate, chiefly, to clothing and furniture. They are intimately connected with those in the last article, exhibiting nearly the same state of mind.

29. *Docility.—Indocility.—Docility*, or teachableness, always accompanies *true* knowledge. The more one knows, the clearer he sees his own deficiencies, and the more anxious he will be to remove them. On the contrary, the ignorant are indocile, having generally a high opinion of their own acquirements.

30. *Obedient temper.—Impatience of control*.—The *obedient* and tractable child is beloved by all, and is in the surest way of acquiring wisdom; whereas *impatience of control* leads to innumerable evils. In adult age, the virtuous trait appears in a conformity to the laws of God and of our country.

III. *Duties to Others.*

Sec. I. Justice.

31. *Truth.—Falsehood, perjury.—Truth* is one of the most important of the virtues. A man of truth is one who is true to his God, to himself, to his fellow-men. This is not a mere verbal nicety. Does not the man who is unfaithful to his duties practically deny, though not in express words, his obligations to perform them? A liar is the most despicable and wretched of all characters. Even the lowest and most depraved consider themselves disgraced, when charged with the guilt of lying. How important, then, how sacred, is the duty of training youth in a strict regard to truth! [And yet, how sadly defective the practice! In many families, nay, may we not say in most, the whole system of family government is founded upon lies. Children are cheated in their amusements, in their food, and in their dress. If a child has to take physic, he is told that it is something good for him to drink; if reluctant, he is told that his mother will go and leave him, or that he shall be sent away, or some other such lie. Sooner or later, all these will infallibly be discovered to be deceptions by the child, and then, what must be his moral impressions, when he finds that his parents, who almost stand to him in the place of the Deity, pay no regard to truth? Another fertile source of mischief is the practice of pacifying children with *promises* never performed, nay, in many cases, never intended to be performed. If it be necessary, for instance, to take any thing from them, they are reconciled by the promise of something else, a promise which is instantly forgotten, as a matter of no consequence. But it is a matter of the very first consequence. Children are the very last persons to whom promises should be broken, because they cannot comprehend the reasons, if any there be, why they are not kept. Such promises should be scrupulously redeemed, though at a great inconvenience, and even when inadvertently made; for the child's moral habit is of infinitely more importance than

any such inconvenience can be to the parent. Another most injurious practice is the exaction of promises *from* children. When a child acts improperly, the uniform course, both of parents and children, is to demand, on pain of punishment, a *promise* of better behavior. But, if the consequences were better considered, this would be the last course that would be adopted. For, as it is almost certain, from the thoughtlessness and forgetfulness natural to childhood, that this promise will be broken, we are thus leading him into a *habit of disregarding his pledged word*. Besides, it is wholly unnecessary. When does a law or a lawgiver require a *promise* of obedience? Never. The question to a child, if any be necessary, when he has acted wrong, should be, *Are* you good *now*? not, *Will* you be good? Let us, then, consider it an undeviating rule, that promises are *never* to be exacted from children; but that, on the contrary, they are to be discouraged from offering them lightly and inconsiderately. As soon as they are of a fit age to understand it, the sacred nature of a promise ought to be explained to them, and they should be advised, rarely thus to pledge their honor; but, when their word has once passed, to hold it inviolate as an oath. What a beneficial change would the general adoption of such a rule produce in society! what a mass of evil would it not prevent! and what possible inconvenience could it produce!]

32. *Sincerity.—Exaggeration, deceit.*—There are many persons, who, although they would scruple to tell a direct falsehood, yet have no hesitation in using language which may convey a false impression. This is *deceit*, the opposite of *sincerity*, which avoids every means of deceiving, whether by silence, speech, or action. He only is the man of truth, who will not intentionally deceive in any manner, whatever. There is another species of falsehood, which is but too prevalent, namely, the spirit of exaggeration, by which circumstances are magnified or lessened. So general is this practice, that we can place but little dependence upon facts, not received from first hand. "Accustom your children," says Dr. Johnson, "constantly to this: if a thing hap-

pened at one window, and they, when relating it, say that it happened at another, do not let it pass, but instantly check them; you do not know where deviation from truth will end. It is more from carelessness about truth, than from intentional lying, that there is so much falsehood in the world. Some men relate what they think, as what they know; some men, of confused memories and habitual inaccuracy, ascribe to one man what belongs to another; and some talk on, without thought or care. A few men are sufficient to broach falsehoods, which are afterwards innocently diffused by successive relaters." The habit of exact attention, which an improved state of intellectual education will, it is to be hoped, render general, will materially assist in abating this serious evil. But an improved state of morals is necessary to its complete removal.

33. *Integrity.—Dishonesty.*—These require no labored explanation. It is sufficiently evident, that "Honesty is the best policy," and that "the way of the transgressor," in this respect, "is *hard*."

34. *Fidelity.—Unfaithfulness.*—Although there are few, making any pretension to character, who would *steal*, yet too many are unscrupulous in betraying their trust. A "breach of trust," however, though considered venial, in the eye of the law,* will ever be considered *stealing* by every honorable man.

35. *Conscientiousness; respect for the property or rights of others.—Want of ditto.*—Very young children have no idea of the nature of property. This ought to be explained to them as soon as possible; and, in order to induce proper habits, they ought never to be allowed to handle any thing belonging to their brothers and sisters, without leave. The nature of the right to property held in common still more needs explanation. For instance, the rights of others are infringed, when the common

* The object of the law, in refusing to punish, criminally, breaches of trust, is doubtless to render men more cautious in their mercantile transactions. Were it otherwise, a looseness in the mode of conducting business would become general, as the law would be depended on for that care, which men themselves ought to exercise, thus immensely increasing the serious evil of litigation.

property vested in schoolhouses, and other public buildings, is injured; or by the destruction of milestones, guideboards, &c. On the continent of Europe, this wanton spirit of destruction is said to be totally unknown. In the large cities, there are numerous public institutions of great utility, such as botanic gardens, collections of paintings and statuary, &c., open to the public, indiscriminately, which could not exist in our country, owing to the prevalent barbarous habit of destructiveness. An American traveller through Europe, observing, one day, an occasional wisp of straw tied around the fruit-trees that lined the road, inquired the reason from a fellow-traveller. "This is done by the owners," replied he, "to show that they bear a superior kind of fruit, which they wish to reserve for themselves." "Is it possible?" returned the American; "in our country, such a mark would insure their destruction." "What," resumed the stranger, "have you *no schools* in your country?"

36. *Impartiality.—Partiality.*—This virtue and vice are confined to adults. It relates to the conduct of parents towards their children, or of judges, and other public officers. It is inserted in the Table, because it may be necessary to refer to it, in the course of reading.

Sec. II. Benevolence.

37. *Social affections: viz. Conjugal, parental, filial, and fraternal love; friendship.—Perfidy.—Conjugal* love relates to the mutual affection of husband and wife; *parental* love, to the affection of parents to their children. As they have reference merely to adults, it is unnecessary to speak of them here. *Filial* love is the affection of children to parents, of which obedience is the fruit. Children owe their parents a debt which can never be paid. More helpless than the young of any other animal, children, for months and years, have been the objects of unremitting care. What anxious days, what sleepless nights, have they occasioned, which nothing could have supported but the most ardent love! How endless, then, the debt of gratitude? But obedience is not less the interest than the duty of children. Where can they find

a friend like a parent? Whose counsels will be so wholly disinterested? Besides, so kindly has our Creator arranged our constitution, that we gain rather than lose, by the voluntary payment of such debts.

> ——— "A grateful mind,
> By owing, owes not; but still pays, at once
> Indebted and discharged; what burden, then?" — *Milton.*

Perhaps nothing can exibit this beautiful truth, in a more striking point of view, than the following circumstance, which occurred in France a few years ago.

In Paris, there is an institution, called the Household Hospital, into which aged widows and widowers are admitted, on payment of about two hundred dollars each, which secures them a room, and meat, drink, clothing, firing, pocket-money to the amount of about one dollar and fifty cents a month for the remainder of their days, and burial at their close. For a married couple, to obtain a double room, and set up a household apart, a further trifling gratuity is required; or, rather, eighty of the best bed-rooms are thus appropriated, and the remaining eighty bestowed gratuitously on couples wholly destitute of resources. Nothing can be neater or cleaner than the chambers allotted to either class, opening from an airy corridor, several hundred feet long, having, opposite to each door, its locker, for wood and charcoal. The service of the whole establishment is conducted by forty nuns, *Sisters of Charity*, and the exquisite and delicate neatness of their kitchens, laundry, and gallery of linen presses, do honor to their jurisdiction. Abundance of the most wholesome food, such as rice stewed in broth, meat, vegetables, and stewed fruit, are at all hours in preparation in a kitchen, which has the airiness and elegance of a varnished Dutch toy.

An English gentleman residing in Paris had frequently noticed the cheerfulness, the affectionate disposition, the untiring industry of James, the errand-man, who was occasionally employed as drudge of all work at his hotel. Walking one day in the outskirts of the city, he observed

James seated, side by side, with the driver of a small cart, loaded with a bed, two chairs, and a chest of drawers, and singing and laughing so heartily with his companion, that he immediately concluded, that these must be the little articles of furniture he had provided for his marriage with Josephine, the nursery-maid, to whom his attentions had for some time been very obvious. But, to his surprise, he found, that their destination was very different; that James was carrying them to the Household Hospital, for the accommodation of his parents. The rest of the story will be best told in the Englishman's own words.

"Is it, then, for your parents, my good lad," cried I, "that you are taking all this trouble?"

"*Trouble!*" reiterated James, in a stinging accent. "Why, for five years past, the pleasure of fixing the old folks in peace and comfort, for the rest of their lives, has been my dream by night, my care by day. Trouble, Sir! ever since I chanced to be sent here on an errand by old Matthew's grandson, I have kept saying to myself, 'James, my boy! yonder is the place for the old folks. Manage to scrape together as much as will secure their old age an asylum in the Household Hospital, and you may henceforth *sleep in peace.*' With that end in view, I have toiled early and late. Two hundred dollars is a trifle, when one looks *back* on the earning of it; but when one looks *forward*, the task seems hopeless. Twice, too, I have been cruelly thrown back. I was blockhead enough to lend sixty dollars, two Winters back, to a countryman,—a brother Auvergnat,—who had drawn a bad number for the conscription; and though, by working hard, he might have paid me the money twice over, the fellow made off from Paris a few weeks afterwards, and has been heard of no more,—which was far from delicate of him, as the debt was a debt of honor, and regarded a brother Auvergnat. Monsieur may, perhaps, recollect, that he jeered me for being out of spirits, the Carnival before last, and gave me a dollar to keep Shrove-Tuesday with? *That* was the very time I lost my money; and that was the first I put, for luck's sake, into my new money-box. And luck it brought me, sir,—for,

the very next week, the Count threw me a double gold Napoleon, because he happened to drive his cabriolet over my foot, as I stood chopping wood in the court-yard. It is true, I had a hard matter to hobble about for six weeks afterwards, the frost having got into the wound. But what was that to the good fortune of having gained seven dollars at a stroke ?"

"But, my good James," cried I, much affected by the recollection of his hard labors, and their scanty reward, "why not apprise me of the object you had in view ?"

"Because I knew Monsieur's good heart might lead him to do more than was altogether convenient to him. You paid me well, sir, for my services ; and to have hinted a wish for further gains would have been begging. And yet, about three months ago, sir, when I happened to meet Anthony, the great-grandson of old Matthew, crying in the street, and heard from him, that the good old man was not expected to get through the night, and I went home, and broke my money-box, and found only fifty-five dóllars, to add to the hundred and twenty registered to my name in the Savings Bank, I own, I had half a mind to implore of Monsieur the favor of a loan, of the twenty-five wanting, to make up my two hundred, in case of poor old Matthew being called away. By God's will, however, the old chap was spared, to toddle on a few months longer, and, luckily, in the busiest time of the year. Bless your heart ! I have stayed up, night after night, this Winter, at the masked balls, at the opera, or at Musard's, till seven o' clock in the morning, which is an ugly hour to look in the face when you have had no sight of a pillow, and the snow too thick on the ground to admit of sleeping on one's wheelbarrow, at the corner of the street, during the day-time. However, there's an end to all things ! All's over ! All's safe ! Last night my money was deposited with the Treasurer of the Hospital, to the last half-penny ; and there's yet left behind," quoth he, jingling his pockets, and glancing good humoredly at the porter, "enough to afford a handsome gratuity to those who are about to have charge of the old folks."

My answer consisted in a hearty shake of the errand-man's horny hand.

"Monsieur must perceive," faltered he, as if apologizing for not having appealed to my assistance, "that it will afford twice the pleasure, both to the old people and myself, that this asylum is secured to them by my own industry, and not by the help of others. 'T is a foolish thought, my good sir, for the like of *us*; but you see, poor as we are, and Christians too, we are proud. This is not a common almshouse, sir. The Household Hospital is a place where respectable folks are admitted, for pay. I would not have shoved poor father and mother into the Charity-ward, any more than into a lazar-house! nor I would not have liked to see them beholden to any but their own son, so long as he had arms to work for them. But all fear's at an end. Twenty cabriolets may drive over me now, or twenty choleras attack me. I have a right to be sick or sorry when I please. I have a right to sleep in my bed o'nights, and look the Count's saucy chap of a groom in the face by day. The old folks are safe. Whatever may happen to *me*, here is their birth, with food, raiment, and pocket-money, so long as it pleases God to spare them. It is a mightier relief than people dream of, to be relieved from all further anxiety concerning one's father and mother." And James wiped his forehead, at the mere recollection of his past cares and present ease of mind.

"But all this time I am forgetting the cart," cried James. And, having hurriedly arranged with the porter to meet him in the chamber at three o'clock, he entreated me to return at the same hour, and be witness of the old people's inauguration.

It was three o'clock, within three minutes, when I returned. On attaining the corner, the empty cart of my friend James stood at the gateway of the hospital.

"The old people are arrived, then?" said I, to the porter. "Arrived! and I fear in some trouble," he replied; "for my wife, who helped to escort them, was seen running from the house just now, to the infirmary, to fetch one of the nuns some ether."

The odor of that powerful restorative reached me, the moment I entered the gallery containing the little household chamber of the new comers. The door was ajar, the opposite window open. I heard the ominous sound of human sobs within.

My heart sank in my bosom. The joy of the old people had been too much for them. One of poor James's parents had, perhaps, fallen a victim to the agitation and hurry of removal. Peeping anxiously in, I prepared myself for the sad spectacle of expiring age.

"He is better now," were the first words that struck my ear, as I entered the room. When, lo! wonder of wonders! I descried poor James, with his bronzed cheeks white as ashes, sitting propped in his chair! while the nun, sister Patronille, and a venerable-looking peasant couple, administered to his aid. *It was the strong man who had fainted.*—Overcome by the *exquisite delight* of installing his parents in their long-wished abode, consciousness had for some minutes been suspended in the Herculean frame of James the errandman.

Fraternal love relates to the affection which ought to exist between brothers and sisters. "How good and how pleasant it is," says the Psalmist, "for brethren to dwell together in unity." It is "as the dew of Hermon, and as the dew that descended upon the mountains of Zion." What, indeed, can be a more captivating sight, than that of a whole family united as one, in the bonds of love? And what more odious, than family jars and quarrels? Have you brothers and sisters at home? Look not abroad, then, for friendship, for where can you find one "that sticketh closer than a brother." There is something so holy and pure in the mutual affection of a brother and sister, that, wherever it exists, we may rest assured that the heart is right. Oh! what a mistake do those commit, who neglect to cultivate so precious a gift, when God hath placed it in their power. Parents and teachers should strive to sooth the little asperities that will occasionally arise in so intimate a connexion, and lead

their charge to take a pride in mutually sacrificing their little whims to each other.

Friendship is the extension of this species of love to a wider range. We should be extremely cautious in the choice of friends, for nothing has a worse moral effect, or gives greater pain, than a breach of friendship; and it cannot be enduring, where the dispositions are opposite. True friendship cannot exist between the good and the bad, between the liberal-minded and the selfish. When we have chosen wisely, however, our friend should be treated with confidence, with uniform kindness, with respect, with fidelity, and with constancy,—a constancy that should survive even the grave. "Some persons," says a French writer, "believe that there are no longer any duties to be fulfilled beyond the tomb; and there are but few who know how to be friends to the dead. Though the most magnificent funeral pomp be the tears and the silent sorrow of those who survive, and the most honorable sepulture be in their hearts, we must not think that tears which are shed from the sensibility of the moment, and sometimes, too, from causes, which, in part, at least, relate to ourselves, acquit us of all our obligation. The name of our friends, their glory, their family, have still claims on our affection, which it would be guilt not to feel. They should still live in our heart, by the emotions which subsist there; in our memory, by our frequent remembrance of them; in our conduct, by our imitation of their virtues."

Perfidy is the breach of any of the social affections, particularly that of friendship. The perfidious are deservedly shunned and detested by all.

38. *Humanity.—Inhumanity.—Humanity* signifies the feeling which leads us to treat the whole human race with kindness. *Inhumanity* is the reverse.

39. *Mercy.—Unmercifulness.—Mercy* signifies the forgiveness of injuries; the kind treatment of an enemy. Shakspeare has some beautiful lines on this subject:

> "The quality of mercy is not strained;
> It droppeth, as the gentle dew of heaven
> Upon the place beneath: it is twice blessed:
> It blesseth him that gives, and him that takes."

The gospel attaches great importance to this virtue. Christ directs us to ask forgiveness of *our* sins on the *condition* that we pardon others; and, not satisfied with the simple direction, he immediately repeats the injunction, in two other forms of words: "For, *if* ye forgive men their trespasses, your heavenly Father *will* also forgive you: But if ye forgive *not* men their trespasses, *neither will* your Father forgive your trespasses."* He also most strikingly enforces this virtue, in his last moments, when his enemies were wreaking their vengeance on him, by a most cruel death: "Father, forgive them, for they know not what they do." The beauty and delights of mercy ought to be exemplified in very early youth, and habits of mutual forgiveness formed, while the temper is pliant.

40. *Forbearance, placability.—Implacability, moroseness, spite.*—These are the same virtues in a slighter degree; or they may be considered merely as manners. They are of much importance, however, as occasions for them occur so frequently. *Moroseness* is peevishness, displayed in a rough manner; *spite* is habitual malice, shown in small matters. Those who entertain them must needs be unhappy.

41. *Charity.—Uncharitableness, scandal, defamation.*—*Charity* is that frame of mind, which habitually puts kind constructions on the actions of others, and looks on the favorable, rather than the unfavorable points of character. *Uncharitableness* is not the vice of early youth. Very little pains, therefore, at its first appearance, will check its growth. Its true, perhaps its only, cure is in that culture of the intellect, which will create a general interest in *better subjects of conversation.* Where a company take delight in *books*, the character of their neighbors will be a less frequent topic. *Scandal*, perhaps, marks the folly of the head, as much as the uncharitableness of the heart.

42. *Tolerance.—Intolerance.—Intolerance* arises from the same source as the vices of the preceding article, name-

* Matt. vi. 12, 14, 15.

ly, ignorance. It is also susceptible of the same cure, a better intellectual education. An ignorant man thinks that those who differ from him are actuated solely by blindness or obstinacy. He makes no allowance for the varied circumstances in which men are placed, which cause their views and opinions so essentially to differ; and it never for a moment enters his mind, that he may be wrong. When men shall be properly educated, there will be but little intolerance in the world.

43. *Generosity, liberality.* — *Imprudence, greediness, avarice.*— *Generosity* and *liberality* are directly opposed to that spirit of selfishness, which would appropriate every thing to itself. They are beautiful traits in infancy, and easily cultivated. The child wants but little encouragement to induce him to share his apples and cakes with his companions. Let this practice become universal, and we shall have a happier world to live in. There will be little danger of its running into *imprudence*, if habits of self-control and forethought (see numbers 9 and 10) have been properly cultivated. Children, however, should never be *rewarded* for liberality. Giving away, without self-denial, is not liberality. The approbation of their own bosoms, and the sight of the pleasure they occasion, should be the sole reward, and it is more than sufficient to repay their sacrifices.

Selfishness is a great bar to the enjoyment of happiness, whose only unalloyed, legitimate source is found in promoting the happiness of others. Children should be continually called on to consider what will please their brothers and sisters, as well as their parents. They should be taught to share with them every little present, and be led, by degrees, to think less of themselves, and more of others. If a child should say, that, by sharing his apple or cake, there will be *none* left for him, (a common expression,) he should be answered,—Never mind that; don't you wish to please your friends or brothers? (as the case may be.) "I wish to go with you this afternoon, mother," said an amiable little girl, "but brother wishes to go too; and, as we can't both go, I will stay at home." Who would not love a child of such a spirit? As chil-

dren grow up, and their acquaintance extends beyond the family circle, the same practice should be gradually extended. "Do n't you think your little schoolfellows, John and Mary," said a fond mother to her boy, "do n't you think they would be pleased, if you were to save some of these nice plums for them?" And, his countenance falling, she added, "Do n't you think it would give you more pleasure to see them so happy, than if you were to eat them yourself?"

Greediness and *avarice* are the opposites to generosity and liberality. The former is general, the latter applied chiefly to the passion for money.

44. *Kindness.—Oppression, cruelty to animals.*—Children should be taught to be uniformly *kind* to all around them. At first, *oppression and cruelty* generally arises from mere thoughtlessness. The sooner, then, the wickedness of such a course is pointed out, the better. Perhaps, the duty of tenderness to the brute creation is most properly placed on the ground, that God is their and our common parent and protector. But there is another point of view, well deserving attention, namely, the tendency, which either viewing or inflicting torment has, to *harden the heart*. Can he, who, in his tender years, has amused himself with torturing flies, and, as his strength increased, extended his tyranny over fowls, dogs, horses, and cattle, can such a one be expected to prove an affectionate brother, a kind master, a tender parent? Will he be likely to sympathize with the misfortunes of his neighbors? Will he treat his parents, in their old age, with tenderness and care, or will he view them as a burden, and look forward, with anxiety, to their final removal?

"Any thing to keep him quiet," answered an apparently-fond mother to my remonstrance, on seeing her supply her infant with flies and bugs, to torment. Misguided woman! whose will be the fault, when thy child, whose heart thou thyself hast contributed to harden, shall exhibit its proper fruits, harshness and contumely towards thee, towards all mankind?

"There is one trait of character in our American boys," says the author of 'Fireside Education,' "which

I think deserves to be checked; and that is, the incessant war that they carry on against familiar birds and the lesser quadrupeds. As soon as a boy can hurl a stone, he becomes a Nimrod, and goes forth as a mighty hunter against the bluebirds, cat-birds, swallows, and robins, that venture into our gardens, orchards, and fields. Not even the little wren, that comes with his fair offer of a dozen beautiful songs a day, for the rent of some nook or cranny about the house, is safe from the whizzing missile. Not even the little sparrow, that would build beneath your window, is tolerated. Not even the little ground-squirrel, that enlivens the woods, is permitted to eat his nut in safety. And, when the boy becomes a youth, the same exterminating war is carried on, though with a different weapon. With a fowling-piece in his hand, he roams the orchard and the field, slaughtering, without discrimination, jays, woodpeckers, sparrows, blackbirds, bob-o-links, and the rest of the feathered family.

"Now, is not this all wrong? Does not this partake of cruelty? And, besides, is it not obvious folly? For my own part, I love to see the birds enlivening the landscape. The rigor of our climate drives them away for half the year; but I mourn when they are gone, and rejoice at their return. They are a great resource to those who will observe them. Their songs, however varied, are ever beautiful. Their forms, habits, and capacities, are themes of interesting study. It is delightful to see them building their nests, rearing their young, pursuing their food, and displaying their various musical gifts. Why, then, should we drive these creatures away? Some of them, it is true, are thieves, and take more cherries and corn than we are willing to spare them, and I approve of necessary scarecrows and suitable pelting, in these cases. But why banish the whole feathered race, most of whom are not merely innocent, but absolutely useful in diminishing the number of noxious insects? It is not so in other countries. In England, birds generally are protected and cherished. I do not speak, now, of pheasants, partridges, and other game, which are sheltered in the parks, and preserved from all but his lordship's

shot; but, throughout the whole country, the sparrows, bulfinches, goldfinches, thrushes, blackbirds, and other little songsters, are permitted to live, almost without molestation. They are seen, by hundreds, in every hedge and field. Many of them are almost domesticated around the houses; and, even in the cities, such as Liverpool, Manchester, Birmingham, London, and others, amid the smoke of coal, the din of factories, and the throng of people, you see thousands of these little birds. In the heart of an English city, I have sometimes waked up, in the morning, and, from the bursting melody of finches and sparrows around, have imagined myself to be in the country.

"Why is it that our custom, in respect to birds, is so different in America? Have we derived from our pilgrim fathers a spirit of extermination? Because the first settlers of this country cut away the forests, slaughtered the Indians, smote the bear and the bison, hunted down the panther and the wolf, have we derived from them a spirit of extirpation, which, now that the monsters of the forest are slain, is given up by men, but lives in our children, and vents itself on cat-birds and sparrows? I know not; but, be this as it may, I mourn over the solitude which is gradually gathering over the landscapes of New England, from the absence of the feathered songsters; and I mourn over that spirit of wanton cruelty, which makes man the enemy, instead of the friend, of harmless birds."

It is to be hoped, that, by the introduction of botany and mineralogy into the schools, our youth may visit the fields and groves for other and better purposes than the wanton destruction of so interesting a part of creation; and that parents and teachers will embrace so good an opportunity of checking this unamiable characteristic.

It is an error to imagine that creatures in misery are the only objects of benevolence, and that it has no function but the excitement of pity. It is a wide-spreading fountain of generous feeling, desiring for its gratification, not only the *removal* of pain, but the *maintenance and augmentation* of positive enjoyment; and the happier it can render its objects, the more complete are its satisfac-

tion and delight. Its exercise is a source of great pleasure to the individual himself; and, from the nature of the human faculties, every person, without injuring himself, has it in his power to confer prodigious benefits; or, in other words, to pour forth the most copious streams of benevolence on others, by properly gratifying their various feelings and intellectual faculties."

45. *Magnanimity.—Meanness.*—These traits relate to greatness of mind, and its opposite. *Magnanimity* is shown in passing over trifling injuries, and, in this sense, it is connected with forbearance and mercy. But in nothing is it more strikingly displayed, than in the confession of an error in opinion or practice; in nothing is meanness more obvious, than in the obstinate adherence to error, or in shutting the eyes to facts, to prevent conviction. Yet, how rare is this display, either in the walks of private life, or in the halls of legislation. Some people, in arguing with children, teach them to be disingenuous, by the uncandid manner in which they proceed. They show a desire for victory, rather than for truth; they state the arguments only on their own side of the question, and they will not allow the force of those which are brought against them. Children are thus piqued, instead of being convinced; and, in their turn, *they* become zealots in support of their own opinions; they hunt only for arguments in their own favor, in place of seeking after truth; and they are mortified, when a good reason is brought on the side of the question opposite to that on which they happen to have enlisted. To prevent this, we should never argue, nor suffer others to argue, for victory, with our children. We should not praise them for their cleverness in finding out arguments in support of their own opinion, but we should praise their candor and good sense, when they perceive and acknowledge the force of their opponent's arguments. They should not be exercised as advocates, but as judges; they should be encouraged to keep their minds impartial, to sum up the reasons they have heard, and to form their opinion from these, without regard to what they may have originally asserted. We should never triumph over children for changing their

opinions. "I thought you were on my side of the question," or, "I thought you were on the other side, just now," is sometimes tauntingly said to an ingenuous child, who changes his opinion when he hears a new argument. It is no proof of his want of judgment, when he changes his opinion in this manner, that he vibrates, continually, from side to side. Do you think it a proof that your scales are bad, because they vibrate with every additional weight that is added to either side? Debating societies, it is to be feared, have somewhat of the same tendency with that of the injudicious reasoners already alluded to, that of leading young people to seek for victory, rather than truth. We have now, and always shall have, a sufficiency of lawyers in the community; but every child should be trained to be a good juror, a good legislator, a good judge. It may be asked, whether a man is properly fitted to exercise the elective franchise; nay, still further, whether a man can be (except by chance) a sound, consistent Christian, who is incapable of *weighing* arguments, of looking at two sides of a question.

46. *Good temper.*—*Ill temper.* } *Good* and *ill tem-*
47. *Good humor.*—*Fretfulness.* } *per* display themselves in the more important cases; *good humor* and *fretfulness* in the more frequent and trifling occasions. A good-tempered man may be fretful at trifles; but summons his philosophy to bear more important ills. A good-humored man will laugh at what occasions fretfulness in others; but may succumb, and lose command of himself, on an important occasion, when he has most need of it. Both qualities are good in themselves; each is incomplete without the other.

48. *Indignation.*—*Anger, resentment.*—*Indignation* is the anger we feel at seeing others injured. *Anger* is the instant passion we feel on receiving an injury ourselves. *Resentment* is anger long retained. The first is a proper sentiment. The second is excusable, within proper bounds. The third is always wrong.

49. *Sympathy.*—*Selfishness, envy.*—*Sympathy* is that emotion by which we enter into, or participate in, the joys and sorrows of others. *Selfishness* expresses the

total want of such feelings. *Envy* is the reverse of sympathy. It causes us to feel sorrow at the joys, and joy at the sorrows, of others. As sympathy is not only due to all, but tends greatly to the happiness of its possessor, it should be carefully cultivated in youth. Selfishness and envy, in like manner, should be repressed, as not only injurious to others, but as a source of misery to all who cherish them.

50. *Politeness.—Etiquette.—Impoliteness.—Politeness* does not consist, as some appear to suppose, in forms of speech, or gesticulations of body. It resides in the mind; and, in fact, is nothing less than the carrying out, extensively, the great Christian precept, "Whatsoever ye would that men should do to you, do ye even so to them." The Quakers, as a body, possess the essence of politeness, without its forms. When you enter a house, you are received with attention, but with the utmost ease. Should you stay to eat, you partake of the family meal; there is no unusual delay, no fuss, or running about, to show you what trouble you cause them. You at once find yourself easy, and at home.—Gracefulness of behavior consists in an easy and *natural* motion and gesture, and looks denoting kindness and good will to those with whom we converse. If a child's heart and temper are formed to civility, its outward expression will come in due time. Did parents consider these obvious things, they would bestow their chief attention on the mind, and not make themselves, their children, and their visiters, perpetually uneasy about what they consider the graces. True grace has been defined, the art of being easy in company, and of making all others easy about us. It consists in indiscriminate attention, in accommodating our conversation to the particular tastes, habits, and inclinations, of those we are in company with; in never even glancing on our own affairs, but always paying the most minute regard to those of others. How disgustingly selfish and impolite is the conduct of those who talk continually of their own affairs! *Etiquette* is something very different from politeness. Every clime and country has its *different* modes and fantastic ceremo-

nies, to compensate for the absence of the proper spirit of intercourse. Politeness is the *same* over all the world. It resides in the generous bosom of every color and name. How ridiculous, then, is their folly, who, regarding only the external expression, labor to recommend themselves by tricks and forms, which require little more than the imitative faculties of a well-bred monkey to practise! Politeness should not be confined to our intercourse with strangers. It should be extended to every member of the household. For the more intimate our connexion with any one, the more necessary it is to guard ourselves against taking unwarrantable liberties. For the very reason that we are so much together, we should take care to do nothing disagreeable to each other.

51. *Affability.—Reserve.—Affability* is politeness, exercised towards those who are young, or in an inferior station. It is necessary, to complete the character of a truly polite man.

52. *Kindness in conversation.—Petulance.*—"There is no way," says the Rev. Horace Hooker, "in which men can do good to others, with so little expense and trouble, as by *kindness in conversation*. 'Words,' it is sometimes said, 'cost nothing.' But kind words are often more highly valued than the most costly gifts; and they are always regarded as among the best tokens of a desire to make others happy. We should think that kind words would be very common, they are so cheap; but there are many, who have a large assortment of all other language, except that of kindness. They have bitter words, and witty words, and learned words, in abundance; but their stock of kind words is small. The churl himself, one might suppose, would not grudge a little kindness in his language, however closely he clings to his money; but there are persons, who draw on their kindness with more reluctance than on their purses.

"Some use grating words, because they are of a morose disposition. Their language, as well as their manners, shows an unfeeling heart. Others use rough words, out of an affectation of frankness. They may be severe in their remarks; but then they claim that they are open

and independent, and will not be trammelled. They are no flatterers, they say ; and this they think excuse enough, for all the cutting speech which they employ. Others wish to be thought witty ; and they will, with equal indifference, wound the feelings of friend or foe, to show their smartness. Some are envious, and cannot bear to speak kindly of others, or to them, because they do not wish to add to their happiness. And some are so ill-bred, that they seem to take delight in using unkind words, when their intentions are good, and their feelings are warm. Their words are rougher than their hearts ; they will make sacrifices of ease and property, to promote your comfort, while they will not deign to employ the terms of courtesy and kindness. Of these, the Scots have an expressive proverb, that 'their bark is worse than their bite.' Many a man would be loved for his liberal deeds, if his tongue, by its harshness, did not repel affection. And he often wonders why his friends seem to care so little for him, when they are very grateful to others, from whom they receive not half so many favors. Some are caustic and severe in their language, for the sake of showing their superior acuteness and discrimination. They would rend in pieces a cloth of gold, to detect a defective thread, which had escaped the less keen observation of others. They are always on the watch, to spy out some fault in character, or in composition, which others overlook ; that they may appear to have uncommon discernment, and rare skill in criticism.

"If the happiness of others is not motive enough for kind words, we may find a motive in their influence on ourselves. The habit of using them will, at length, conform our feelings to our language. We shall become kind, not only in our speech, but in our manners, and in our hearts. On the other hand, to make use of carping, harsh, and bitter, words, seldom fails to sour the disposition, and to injure the temper."

56. *Respect to age and station.—Want of ditto.*—One would think, that the very circumstance of our all wishing or expecting to live to old age, would induce a general respect for persons in that period of life, independent of

the injunctions of religion. Yet how different is the fact! The word *old* has almost become a term of opprobrium. Steele relates, that, at Athens, during a public representation of some play exhibited in honor of the Commonwealth, an old gentleman came too late for a place suitable to his age and quality. Many of the young Athenians, who observed the difficulty and confusion he was in, made signs to him that they would accommodate him, if he came where they sat. The good man bustled through the crowd accordingly; but, when he came to the seats to which he was invited, the jest was to sit close, and expose him, as he stood, out of countenance, to the whole audience. The frolic went round the Athenian benches. But, on these occasions, there were also particular places assigned for foreigners. When the good man skulked towards the boxes appropriated to the Lacedemonians, that honest people rose all up, to a man, and, with the greatest respect, received him among them. The Athenians, being suddenly touched with a sense of the Spartan virtue, and their own degeneracy, gave a thunder of applause; and the old man cried out, "The Athenians understand what is good, but the Lacedemonians practise it."

57. *Punctuality.—Want of ditto.*—Want of punctuality is a serious evil. It not only causes a vast deal of time to be uselessly squandered, but it is the means of disturbing the devotions of the pious, in all our places of worship. The common saying, "It is always one till it is two," leads to a general hanging back, at every kind of public meeting, until it becomes impossible to say, when business will be attended to. The more intelligent part of the community ought to endeavor to break up the lounging habit, produced by this spirit of procrastination. Let them determine, that one shall mean one, and two, two; and that, when a meeting is called at a particular hour, the business shall be commenced when that hour arrives, and the evil will soon be at an end. A short time since, in a village in the neighborhood of London, a committee of eight ladies, who managed the concerns of an institution, which had been formed for the relief of the neighbor-

ing poor, agreed to meet on a certain day, at twelve o'clock, precisely. Seven of them attended punctually, at the appointed hour; the eighth did not arrive till a quarter of an hour after. She came in, according to the usual mode, with "I'm very sorry to be behind in the time appointed, but really the time slipped away without my being sensible of it. I hope your goodness will excuse it."

One of the ladies, who was a quaker, replied, "Truly, friend, it doth not appear clear to me that we ought to accept of thy apology. Hadst thyself only lost a quarter of an hour, it would have been merely thy concern; but, in this case, the quarter must be multiplied by eight, as we have each lost a quarter; so that there have been two hours of useful time sacrificed, by thy want of punctuality."

If every one had to pay for the time he caused others to lose in this way, what a bill some of us would run up! The teacher should be careful to check this spirit in the young.

CHAPTER XII.

MORAL EDUCATION.

Recapitulation.

THE following appear to be the results of our inquiries on the subject of moral education:

I. That, at present, there is a total want of moral training in our schools.

II. That, though the branch of morals relating to religious faith and modes of worship is properly excluded from the public schools, this circumstance only serves to enhance the necessity of attention to the other parts of moral instruction.

III. That the practice of virtue and the avoidance of vice should be carefully cultivated and enforced, in early youth, it being too late to commence, when opposite habits have become fixed, and the passions fully developed.

IV. That the conscience should be developed, on the first dawning of reason, and cherished and strengthened, by constant use.

V. That this may be done by a suitable mode of questioning on the reading lessons, and on the occurrences in the school and neighborhood.

VI. That a Daily Record for self-examination, with an appropriate series of questions, would be highly useful.

VII. That every school ought to be provided with a Tabular Catalogue of the Virtues and their opposite Vices, with suitable explanations, to which constant reference should be made by the pupils.

VIII. That the teacher ought daily to ask himself, whether he has performed all his duties towards his school.

CHAPTER XIII.

CONCLUSION.

THE following quotation, from Mrs. Austin's Preface to her translation from Cousin's Report on Education in Prussia, forms an appropriate close to the whole subject.

"It seems to me, that we are guilty of great inconsistency, as to the *ends* and *objects* of education. How industriously have not its most able and most zealous champions been continually instilling into the minds of the people, that *education* is the way to *advancement*, that 'knowledge is power;' that a man cannot '*better himself*' without some learning! And then we complain, that education will set them above their station, disgust them with labor, make them ambitious, envious, dissatisfied! We must reap as we sow. We set before their eyes objects the most tempting to the desires of the most uncultivated men; we urge them on to the acquirement of knowledge, by holding out the hope that knowledge will enable them to grasp these objects: if their minds are corrupted by the nature of the aim, and embittered by the

failure which must be the lot of the mass, who is to blame?

"If, instead of nurturing expectations which cannot be fulfilled, and turning the mind on a track which must lead to a sense of continual disappointment, and thence of wrong, we were to hold out the appropriate and attainable, nay, *unfailing*, ends of a good education; the gentle and kindly sympathies; the sense of self-respect, and of the respect of fellow-men; the free exercise of the intellectual faculties; the gratification of a curiosity that 'grows by what it feeds on,' and yet finds food for ever; the power of regulating the habits and the business of life, so as to extract the greatest possible portion of comfort out of small means; the refining and tranquillizing enjoyment of the beautiful in Nature and art, and the kindred perception of the beauty and nobility of virtue; the strengthening consciousness of duty fulfilled; and, to crown all, 'the peace that passeth all understanding;' if we directed their aspirations this way, it is probable that *we* should not have to complain of being disappointed, nor *they* of having been deceived. Who can say, that wealth can purchase better things than these? and who can say, that they are not within the reach of every man, of sound body and mind, who, by labor not destructive of either, can procure for himself and his family, food, clothing, and habitation?"

In our country, if a young man take a single step beyond a common English education, it is considered as a matter of course that he is preparing himself for one of what are called the learned professions; as if general knowledge and well-disciplined minds were totally unnecessary for farmers, mechanics, and tradesmen! Go, little book! if thou shouldst succeed, in any degree, in undeceiving the community of this grievous error, in demonstrating the *practicability* and *necessity* of a thorough education for all, my time will have been well spent, my labors will have met with an ample reward.

APPENDIX.

LIST OF BOOKS FOR A DISTRICT SCHOOL LIBRARY; AND FOR A LIBRARY FOR AN AGRICULTURAL TOWN, OR A CENTRAL SCHOOL.

1.—*For the District School.*

Parley's Magazine, published monthly.
Parley's Tales about Europe.
" " " Asia.
" " " Africa.
" " " America.
" " " the Sea.
" " " Islands in Pacific.
" Every Day Book.
" Book of Bible Stories.
" Christmas Tales.
Abbott's Rollo learning to Talk.
" " " to Read.
" " at School.
" " at Vacation.
" " at Work.
" " at Play.
" Rollo's Museum.
" " Experiments.
" Child at Home.
" Hoary Head.
" M'Donner.
" School-Boy.
" Caleb in Town.
" " " the Country.
The Garden, by S. G. Goodrich.
Life of Washington, by do.
Child's History of the United States, by Charles A. Goodrich.
Uncle Philip's Conversations with the Children about the Whale-fishery and Polar Seas, 2 vols.
—— —— —— about the Trees of America.
—— —— —— with Young Persons.
The Young Crusoe, by Mrs. Hofland.
The Children's Robinson Crusoe.
The Swiss Family Robinson, 2 vols.
Robinson Crusoe, by Defoe.
Alexander Selkirk, the real Robinson Crusoe.
Goodrich's Life of Columbus.
" " Franklin.
Mrs. Barbauld's Prose Hymns.
Poems for Infant Minds, by the Taylor family.
Miss Edgeworth's Frank.
" " Harry and Lucy.
" " Rosamond.
" " Parent's Assistant.
" " Popular Tales.
" " Tales of Fashionable Life.
" " Moral Tales.
Mrs. Barbauld's Lessons for Children.

Mrs. Child's Biographical Sketches.
Berquin's Children's Friend, 4 vols.
Evenings at Home.
Sandford and Merton.
Scott's Tales of a Grandfather, 8 vols.
Miss Sedgwick's New England Tale.
Illustrations of Lying, by Mrs. Opie.
Gallaudet's Child's Book on the Soul.
Gallaudet's Natural Theology.
Constance Latimer, with other Tales, by Mrs. Embury.
The Palfreys, a Tale.
Conversations of a Father with his Children.
Weems' Life of Washington.
" " Franklin.
Weems' Life of Penn.
" " Marion.
Parley's Poetic Stories.
The Young Emigrants, published by Carter and Hendee.
Fruit and Flowers.
Cottagers of Glenburnie, by Mrs. Hamilton.
Rasselas.
Love Token for Children, by Miss Sedgwick.
Panorama of Professions and Trades.
Sigourney's Olive Buds.
" History of Marcus Aurelius.
Dunlap's History of New York.
My Early Days.
Cook's Voyages.
The Robins, by Mrs. Trimmer.
Introduction to the Knowledge of Nature, by do.

2.—*For the Town Library.*

Plutarch's Lives.
Anacharsis' Travels.
Translations of the following works:
Herodotus.
Thucydides.
Xenophon.
Demosthenes.
Arrian.
Livy.
Tacitus.
Cæsar.
Sallust.
Cicero.
Lingard's History of England, 14 vols.
Robertson's Charles V.
" Scotland.
" America.
" India.
Hallam's Middle Ages.
Russell's Modern Europe.
Ramsay's Universal History, 9 vols.
Boswell's Life of Johnson.
" Tour to the Hebrides.
Marshall's Life of Washington.
History of England, by Sir Jas. Mackintosh.
Taylor's (or Moore's) History of Ireland.
Crowe's History of France.
Bancroft's History of the United States.
Guizot's History of Civilization.
Sparks' Life of Ledyard.
" American Biography.
Lockhart's Life of Scott, 7 vols.
Southey's Life of Cowper.
Mrs. Child's Biography of Lady Russell and Madame Guyon.
Lives of the Signers of the Declaration of Independence.
The Federalist.

Chipman's Principles of Government.
Marshall on Federal Constitution.
Mackintosh on Law of Nature and Nations.
American's Guide, containing all the Constitutions, &c.
Dr. Humphrey's Tour, 2 vols.
Irving's Tour on the Prairies.
" Astoria.
" Sketch Book.
Nuttall's Manual of Ornithology.
Carpenter's Scripture Natural History.
Ware's Smallie's Philosophy of Natural History.
Smith's Class Book of Anatomy.
Bell's Lessons on the Human Frame.
Abbott's Abercrombie on the Intellectual Powers.
Abbott's Abercrombie on the Moral Feelings.
Combe, on the Constitution of Man.
Mudie, on Man.
Wayland's Elements of Moral Science.
———— Political Economy.
Martineau's Illustrations of Political Economy.
Addison's Works.
Johnson's Works.
Dick's Works.
Bridgewater Treatises.
Walton's Lives.
Winslow's Young Man's Aid.
Brougham's Discourse on Natural Theology.
Abbott's Mother at Home.
Neal's Charcoal Sketches.
Sartor Resartus, by Carlyle.
Humboldt's Travels in South America.
Hall's Voyage to the Eastern Seas.
Lesslie, Jameson, and Murray's Narrative of Discovery and Adventure in Africa.
Lander's Expedition to the Niger.
Paul's Letters to his Kinsfolks, by Sir Walter Scott.
Works of John Milton.
" of James Thomson.
Poems of William Cowper.
" of Wordsworth.
" of Southey.
" of Bryant.
" of Percival.
Goldsmith's Entire Works.
Chaptal's Chemistry applied to Agriculture.
Fessenden's Complete Farmer.
Davy's Elements of Chemical Philosophy.
Herschell's Astronomy.
" Discourse on Natural Philosophy.
The Heavens, by Mudie.
The Earth, by do.
Library of Entertaining Knowledge.
The Old Bachelor, 2 vols.
The British Spy, 2 vols.
Franklin's Works.
Works of Jane Taylor, 3 vols.
Don Quixote, 4 vols.
Mrs. Opie's Tales, 6 vols.
Miss Edgeworth's Works.
Cooper's Spy.
" Bravo.
" Pilot.
" Last of the Mohicans.
Irving's Tales of a Traveller.
" Sketch Book.
Brown's Arthur Mervyn.
" Edgar Huntley.
Village Pastor and his Children, from the German.
Paul and Virginia.
Scottish Chiefs.
Temperance Tales.
Permanent Temperance Documents.
Miss Sedgwick's Works.
Mrs. Sigourney's Works.
Henry's Mackenzie's Works.
A Good Gazetteer.
Lavoisne's Atlas of History, &c.
American Atlas on the plan of Lavoisne.

THE SCHOOL ADVERTISER NO. II.
AUGUST, 1839.

THE SCHOOL LIBRARY.

MARSH, CAPEN, LYON, AND WEBB,

109, WASHINGTON STREET, BOSTON,

ARE NOW PUBLISHING, UNDER THE SANCTION OF THE MASSACHUSETTS BOARD OF EDUCATION, A COLLECTION OF ORIGINAL AND SELECTED WORKS, ENTITLED, 'THE SCHOOL LIBRARY.'

The LIBRARY will embrace two series of fifty volumes each; the one to be in 18mo., averaging from 250 to 280 pages per volume; the other in 12mo., each volume containing from 350 to 400 pages. The former, or *Juvenile Series*, is intended for children of ten or twelve years of age and *under;* the latter for individuals of that age, and *upwards*,—in other words, for advanced scholars and their parents.

The LIBRARY is to consist of *reading*, and not *school*, *class*, or *text* books; the design being to furnish youth with suitable works for perusal during their leisure hours; works that will interest, as well as instruct them, and of such a character that they will turn to them with pleasure, when it is desirable to unbend from the studies of the school room.

The plan will embrace every department of Science and Literature, preference being given to works relating to our own Country, and illustrative of the history, institutions, manners, customs, &c., of our own people. Being intended for the *whole* community, no work of a sectarian or denominational character in religion, or of a partisan character in politics, will be admitted.

The aim will be to clothe the subjects discussed, in a popular garb, that they may prove so attractive, as to lure

the child onwards, fix his attention, and induce him, subsequently, to seek information from other and more recondite works, which, if put into his hands at the onset, would alarm him, and induce a disgust for that which would appear dry and unintelligible, and of course, uninteresting.

The intention is not to provide information for any one class, to the exclusion of others, but to disseminate knowledge among all classes. The Publishers wish the children of the Farmer, the Merchant, the Manufacturer, the Mechanic, the Laborer,—all to profit by the lights of science and literature, that they may be rendered the more virtuous and happy, and become more useful to themselves, to one another, to the community, and mankind at large. To accomplish this desirable end, the LIBRARY will embrace so wide a range of subjects, that every child may find something which will prove useful and profitable to him, whatever his situation, circumstances, or pursuits, in afterlife may be.

The project is one of great extent, and vast importance; and, if properly carried out, must become of inestimable value to the young. Whether the anticipations of the Publishers, with regard to it, will be verified, time must determine; but from the intellectual and moral, theoretical and practical character of those who have engaged to aid in the undertaking, they have good grounds for presuming that much will be accomplished, and that by their united efforts many obstacles, now existing to the mental, moral, and physical improvement of youth, will be removed, or at least be rendered more easily surmountable.

Among the individuals already engaged as writers for one or both Series, may be mentioned—the Hon. Judge Story, Jared Sparks, Esq., Washington Irving, Esq., Rev. Dr. Wayland, Professor Benjamin Silliman, Professor Dennison Olmsted, Professor Alonzo Potter, Hon. Judge Buel, Dr. Jacob Bigelow, Dr. Robley Dunglison, Dr. Elisha Bartlett, Rev. Charles W. Upham, Rev. F. W. P. Greenwood, Rev. Royal Robbins, Rev. Warren Burton, Arthur J. Stansbury, Esq., E. C. Wines, Esq., Robert Rantoul, Jr., Esq., Professor Tucker, and Professor Elton.

Mrs. Sarah J. Hale, Mrs. E. F. Ellet, Mrs. Emma C. Embury, Mrs. A. H Lincoln Phelps, Miss E. Robbins,

Miss E. P. Peabody, Miss Mary E. Lee, Miss Caroline Sedgwick.

No work will be admitted into the LIBRARY, unless it be approved by every member of the Board of Education; which Board consists of the following individuals, viz., His Excellency Edward Everett, Chairman, His Honor George Hull, Rev. Emerson Davis, Edmund Dwight, Esq., Rev. George Putnam, Robert Rantoul, Jr., Esq., Rev. Thomas Robbins, D. D., Jared Sparks, Esq., Hon. Charles Hudson, and Hon. George N. Briggs.

The following works, have been printed, and constitute the first ten volumes of the 12mo. series, viz.

LIFE OF COLUMBUS, by WASHINGTON IRVING, a new edition, (revised by the author,) including a Visit to Palos, and other additions, a portrait of the Great Navigator, a Map, and several illustrative engravings.

PALEY'S NATURAL THEOLOGY, in two volumes, with selections from the Dissertations and Notes of LORD BROUGHAM and SIR CHARLES BELL, illustrated by numerous wood cuts, and prefaced by a Life of the Author; (with a portrait;) the whole being newly arranged and adapted for The School Library, by ELISHA BARTLETT, M. D., *Professor of the Theory and Practice of Physic and Pathological Anatomy in Dartmouth College.*

LIVES OF EMINENT INDIVIDUALS, CELEBRATED IN AMERICAN HISTORY, in three vols., with portraits of Robert Fulton, Sebastian Cabot, and Sir Henry Vane, and autographs of most of the individuals.

VOL. I. WILL CONTAIN

Life of MAJOR-GENERAL JOHN STARK, by His Excellency Edward Everett.
" DAVID BRAINERD, by Rev. William B. O. Peabody.
" ROBERT FULTON, by James Renwick, LL. D., *Professor of Natural Philosophy and Chemistry, in Columbia College, New York City.*
" CAPTAIN JOHN SMITH, by George S. Hillard, Esq.

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" SEBASTIAN CABOT, by Charles Hayward, Jr., Esq.
" HENRY HUDSON, by Henry R. Cleveland, Esq.
" MAJOR-GENERAL JOSEPH WARREN, by Alexander H. Everett, LL. D.
" MAJOR-GENERAL ISRAEL PUTNAM, by O. W. B. Peabody, Esq.
" DAVID RITTENHOUSE, by Professor James Renwick, LL. D.

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Life of WILLIAM PINKNEY, by Henry Wheaton, LL. D., *Author of History of the Northmen.*
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" MAJOR-GENERAL ANTHONY WAYNE, by John Armstrong, Esq.
" WILLIAM ELLERY, by Edward T. Channing, Esq.
" MAJOR-GENERAL RICHARD MONTGOMERY, by John Armstrong, Esq.

THE SACRED PHILOSOPHY OF THE SEASONS, illustrating The Perfections of God in the Phenomena of the Year. In 4 vols. By the Rev. HENRY DUNCAN, D. D., of *Ruthwell, Scotland;* with important additions, and some modifications to adapt it to American readers, by the Rev. F. W. P. GREENWOOD, of Boston.

The great value and interesting nature of these volumes, to every class of individuals, will be seen, at once, by a perusal of the following Table of Contents. The work contains a paper for every day in the year.

VOL. I.—WINTER.

I. SUNDAY.—*Goodness of God to his Rational Creatures.* The Character impressed on Nature—Compensation. Contrivance.

COSMICAL ARRANGEMENTS.

Globular Figure of the Earth. Circulation in the Atmosphere and Ocean. The Atmosphere. Ignis Fatuus. II. SUNDAY.—*General Aspect of Winter.* Phosphorescence. Aurora Borealis. Meteoric Showers. Variety of Climates. Practical Effect of the Commercial Spirit produced by a Variety of Climates. Adaptation of Organized Existences to Seasons and Climates. III. SUNDAY.—*The Omnipresence of God.* Adaptation of Organized Existences to the Tropical Regions. Adaptation of Organized Existences to Temperate and Polar Climates. The Balance Preserved in the Animal and Vegetable Creation. Night.—Its Alternation with Day. Sleep. Dreaming. IV. SUNDAY.—*The World a State of Discipline.*

THE STARRY HEAVENS.

General Remarks. Gravitation and Inertia. The Planetary System. The Sun as the Source of Light and Heat. Motions of the Planets. Resisting Medium. V. SUNDAY.—*Divine and Human Knowledge compared.* The Satellites. Relative Proportions of the Planetary System. Distance of the Fixed Stars. Immensity of the Universe. Nebulæ. Binary Stars.

THE MICROSCOPE.

VI. SUNDAY.—*Discoveries of the Telescope and Microscope compared.* Wonders of the Microscope.—Infusory Animalcules.

HYBERNATION OF PLANTS.

Plants and Animals compared. Adjustment of the Constitution of Plants to the Annual Cycle. Physiological Condition of Plants during Winter.

HYBERNATION OF INSECTS.

Instinct. VII. SUNDAY.—*On Seeing God in his Works.* Reason in the Lower Animals. Eggs. Various States. Bees. The Snail. The Beetle. VIII. SUNDAY.—*Greatness of God even in the Smallest Things.*

MIGRATIONS OF BIRDS AND QUADRUPEDS DURING WINTER.

Birds. Birds which partially migrate. Quadrupeds.

CHRISTMAS-DAY. NO SEASON UNPLEASANT TO THE CHEERFUL MIND. IX. SUNDAY.—*Proofs of Divine Benevolence in the Works of Creation.*

MIGRATION OF FISHES.

The Sturgeon, the Herring, the Cod, &c. Cetaceous Animals. Migration from the Sea into Rivers. Migration of Eels.

NEW-YEAR'S-DAY.

Migration of the Land-Crab. X. SUNDAY.—*Winter an Emblem of Death.*

HYBERNATION OF QUADRUPEDS.

Clothing. Storing Instincts. Torpidity.

HYBERNATION OF MAN.

Privation stimulates his Faculties. Provisions for his Comfort. Adaptation of his Constitution to the Season. XI. SUNDAY.—*The Unceasing and Universal Providence of God.*

INHABITANTS OF THE POLAR REGIONS.

The Esquimaux. Food and Clothing. Dwellings and Fire.

FROST.

Provision for causing Ice to Float on the Surface. The Expansive and Non-conducting Power of Ice. Amusements connected with it. XII. SUNDAY.—*Winter not Monotonous.—Boundless Variety of Nature.* Effects of Frost in the Northern Regions. Agency of Frost in Mountainous Regions. Hoar Frost.—Foliations on Window-Glass, &c. Beneficent Contrivances relative to Snow. Sagacity and Fidelity of the Dog in Snow.

GEOLOGY.

Its Phenomena consistent with the Mosaic Account of the Creation. XIII. SUNDAY.—*The Difficulty of Comprehending the Operations of Providence.* Successive Periods of Deposit. Successive Periods of Organized Existences. State of the Antediluvian World. Indications of the Action of the Deluge at the Period assigned to it in Scripture. Cuvier's Calculation respecting the Deluge. Effects of the Deluge on the Present Surface of the Earth. XIV. SUNDAY.—*The Deluge a Divine Judgement.*

VOL. II.—SPRING.

COSMICAL ARRANGEMENTS.

General Character of Spring in temperate Climates. Increasing Temperature of the Weather, and its Effects. Color and Figure of Bodies. Mountains. Rain. Springs. I. SUNDAY.—*Advantages of Vicissitude.* Rivers.

REPRODUCTION OF VEGETABLES.

Vegetable Soil. Vegetation. Preservation and Distribution of Seeds. Long Vitality of Seeds. Developement of Seeds and Plants. II. SUNDAY.—*Analogy of Nature.* The Vital Powers of Plants. Flowers.—Their Form, Color, and Fragrance. Their Organs of Reproduction, and their Secretion of Honey. The Violet.

REPRODUCTION OF ANIMALS.

The Animal Structure.—Cellular Texture—Membranes, Tendons, and Ligaments. Secretion, Digestion, and the Circulation of the Blood. III. SUNDAY.—"*The Same Lord over All.*" The Animal Structure. Gastric Juice. Muscular Power. Nature of the Proof of Creative Wisdom derived from the Animal Frame. The Lower Orders of Animals. The Higher Orders of Animals.

INSTINCTS CONNECTED WITH THE REPRODUCTION OF ANIMALS.

General Remarks. Parental Affection. Insects.—Their Eggs. IV. SUNDAY.—*On the Uniformity or Sameness in the Natural and Moral World.* Insects.—Care of their Offspring, exemplified in Bees and Wasps. The Moth. The Burying-Beetle. The Ant. Gall Flies. Deposition of Eggs in the Bodies of Animals, and in Insects' Nests. Birds.—Their Eggs. Prospective Contrivances. V. SUNDAY.—*On the Domestic Affections.* Birds.—Relation of their Bodies to external Nature. Pairing. Nest-building. The Grossbeak. The Humming-bird. VI. SUNDAY.—*Regeneration.* Birds.—Nests of Swallows. Hatching of Eggs, and rearing the Brood. Quadrupeds.—The Lion. The Rabbit. Instincts of the Young.

Man.—Effects of protracted Childhood on the Individual. Effects of protracted Childhood on the Parents and on Society. VII. SUNDAY.—*On Christian Love.*

AGRICULTURE.

The Difference between the Operations of Reason and Instinct, as affording Arguments in Favor of the Divine Perfections. Origin of Agricultural Labor. Origin of Property in the Soil, and the Division of Ranks. Effects of Property in the Soil. Benefits derived from the Principles which Stimulate Agricultural Improvement. The Blessings of Labor. VIII. SUNDAY.—*Spiritual Training by Affliction.* Nature of Soils. Formation of Soils. Management of Soils.—Draining. Irrigation. Blair-Drummond Moss. Products of the Soil.—Dissemination of Plants. IX. SUNDAY.—*The Sower.* Dissemination of Plants.—The Cocoa-Nut Tree. Mitigation of Seasons occasioned by Cultivation. The Labors of the Husbandman wisely distributed over the Year. The Corn Plants.—Their Mysterious Origin. Their Distribution over the Globe. Wheat. X. SUNDAY.—*Sabbath Morning.* The Corn-Plants.—Barley, Oats, Rice, Maize, and Millet. Leguminous Plants.—Peas and Beans. Esculent Roots.—The Potato. Vegetable Substances used for Weaving. The Flax Plant. XI. SUNDAY.—*True Science the Handmaid of Religion.* Vegetable Substances used for Weaving. The Cotton Plant. Vegetable Substances used for Cordage.—Hemp. Vegetable Substances used for Paper.

ANNIVERSARY OF THE DEATH AND RESURRECTION OF CHRIST.

The Sacrament of the Supper. The Crucifixion. The Grave. XII. SUNDAY.—*The Resurrection.*

ENJOYMENT EQUALLY DISTRIBUTED. THE ENJOYMENTS OF THE POOR IN SPRING. THE WOODS.

RETROSPECTIVE VIEW OF THE ARGUMENT.

The Power and Intelligence of the Creator. The Goodness of the Creator. The Use and Deficiency of Natural Religion.

VOL. III.—SUMMER.

COSMICAL ARRANGEMENTS.

I. SUNDAY.—*Summer the Perfection of the Year.* Increased Heat. Internal Heat of the Earth. Increased Light. Electricity. Clouds. Dew. II. SUNDAY.—*Scriptural Allusions to the Dew.* Adaptations of the Faculties of Living Beings to the Properties of Light and Air.

VEGETABLES.

Growth of Vegetables. Principles on which Horticulture is founded. History of Horticulture. The Turnip. Brassica or Cabbage. III. SUNDAY.—*Spiritual Light.* Various Garden Vegetables. Flowers—The Rose. Fruits. Ingrafting. The Gooseberry and Currant. The Orchard. IV. SUNDAY.—*Spiritual Soil.* Productions of Warm Climates used for Human Food.—The Banana. The Date Palm. Trees used for other Purposes than Food. Vegetable Substances used in Tanning. Vegetable Fixed Oils. Vegetable Oils—Essential and Empyreumatic. Vegetable Tallow and Wax. V. SUNDAY.—*Spiritual Culture.* Vegetable Life in the Polar Regions.

ANIMALS.

Connexion between the Vegetable and Animal Kingdoms. The Sensorial Organs. Sensation and Perception. The Argonaut and Nautilus. The Coral Insect. VI. SUNDAY.—*The Invisible Architect.* Insect Transformations—Cocoons—The Silk-Worm. Insects—Their Larva State. Their Pupa or Chrysalis State. Their Imago or Perfect State. The Building Spider. Spider's Webb. VII. SUNDAY.—*Spiritual Transformation.* Insects—Legionary and Sanguine Ants. The Lion Ant—The Queen-Bee. Physiological Character of Vertebrated Animals. Reptiles—The Tortoise—The Serpent. VIII. SUNDAY.—*The Old Serpent.* Reptiles—The Saurian Tribes. Birds—Their Relative Position. The Bill. Their Power of Flying. Their Power of Vision. Their Voice. Their Selection of Food. IX. SUNDAY.—*The Ascension of Christ.* Birds—Their Gregarious Habits. Domestic Fowls—The Cock, the Turkey, and the Peacock. The Goose and the Duck. Birds of Prey—The Vulture. The Eagle. Predaceous Animals—Their

Offices in Nature. X. SUNDAY.—*Christ the Judge of the World.* Quadrupeds—Their Characteristics. Their Bodily Organs. The Bat. The Mouse. Ruminating—The Goat and Sheep. Sheep Shearing. XI. SUNDAY.—*Christ, the Good Shepherd.* Quadrupeds—The Shepherd's Dog. Ruminating—The Cow. Thick-skinned—The Hog. The Horse and Ass. The Elephant. Reflections on the Domestic Animals. XII. SUNDAY.—*The Destruction of the World, and the Renovation of the Human Frame in a Future State.* Fishes. Man—His External Structure. His Intellectual Powers. His Moral Powers. Physical Effects of Climate. Moral Effects of Climate. XIII. SUNDAY.—*The Confusion of Tongues.* Man—Human Language.

HAYMAKING—PLEASURES OF RURAL SCENERY.

THE VARIETY, BEAUTY, AND UTILITY OF ORGANIZED EXISTENCES.

RETROSPECTIVE VIEW OF THE ARGUMENT.

Adaptation. Future Existence. Discipline.

XIV. SUNDAY.—*The Day of Pentecost—One Language.*

VOL. IV.—AUTUMN.

PHENOMENA, PRODUCE, AND LABORS OF THE SEASON.

General Character of Autumn. Autumn in the City. Famine in the beginning of Autumn. Autumnal Vegetation. Progress of Vegetation in the Corn Plants. Harvest. I. SUNDAY. *Stability of Nature.* Gleaning. The Harvest Moon. Harvest-Home. Storing of Corn. Birds.—Their State in Autumn.

THE WOODS.

Their Autumnal Appearance. II. SUNDAY.—*The Powers of the World to come.* The Woods. Their Uses. Various Kinds and Adaptations of Timber.

ORIGIN OF THE ARTS.—Food, Clothing, and Shelter.

HUMAN FOOD.

Its Principle. The Moral Operation of the Principle. Its Supply not inadequate. III. SUNDAY.—*Christians "Members one of another."* Provision for the future.—Soil still uncultivated. Improved Cultivation. Means now in Existence. Vegetable and Animal Food. Fruits—Their Qualities. Drink. IV. SUNDAY.—*"The Bread of Life."* Milk. Wine. Tea and Coffee. Sugar. The Pleasures connected with Food. Comparison between the Food of Savage and Civilized Man. V. SUNDAY.—*"Give us this Day our daily Bread."* Agriculture of the Greeks.—Their Harvest. Agriculture of the Romans. Their Harvest. Progress of British Agriculture. Modern Continental Agriculture.

HUMAN CLOTHING.

Its Principle. Its Primitive State. VI. SUNDAY.—*The Emptiness of Human Attainments.* Its Ancient History. Commercial History of the Raw Material. The Silk Manufacture.—Its Modern History. History of Mechanical Contrivances connected with it. Rearing of the Cocoons, &c. The Cotton Manufacture.—Its Foreign History. VII. SUNDAY.—*The Intellectual and Moral Enjoyments of Heaven.* The Cotton Manufacture.—Its British History. Improvement of Machinery. Its American History.—Introduction of Steam Power. The Woollen Manufacture.—Its History. The Art of Bleaching. The Art of Dyeing.—Its Origin and Ancient History. VIII. SUNDAY.—*The Social and Religious Enjoyments of Heaven.* The Art of Dyeing.—Its Modern History. Its Chemical Principles.

ARCHITECTURE.

Its Principle. Its original State.—Materials employed. Tools employed. Its Modifications by the Influence of Habit and Religion. IX. SUNDAY.—*The Children of the World wiser than the Children of Light.* Architecture.—Ancient History and Practice.—Egypt.—Thebes. The Pyramids. India.—Excavated Temples. Central Asia.—Tower of Babel, or Temple of Belus. Babylon. Nineveh. Petra. Greece. X. SUNDAY.—*Divine Strength made perfect in Human Weakness.* Rome. The Gothic Style. Britain. Bridges. Aqueducts. Railways. XI. SUNDAY.—*An Autumnal Sabbath Evening.* Prospective Improvement of Locomotive Power. Lighthouses—The Eddystone Lighthouse. The Thames Tunnel.

CLOSE OF AUTUMN.

Miscellaneous Reflections on Autumnal Appearances. The Landscape at the Close of Autumn. XII. SUNDAY.—*The Fall of the Leaf.*

GENERAL SUMMARY OF THE ARGUMENT.

Government of the World by General Laws. Government of the World by a Particular Providence. Contrast between Savage and Civilized Life, as regards the Arts. As regards Domestic Comforts. As regards Commerce. As regards Moral Cultivation. XIII. SUNDAY.—"*The Harvest is the End of the World.*"

The preceding ten volumes are now ready for delivery;—and they will be followed, with all due despatch, by the subjoined, among others, provided they are approved by the Board of Education.

LIFE OF WASHINGTON, (with a portrait, and numerous engravings,) by the Rev. CHARLES W. UPHAM, *Author of 'the Life of Sir Henry Vane.'*

THE PURSUIT OF KNOWLEDGE UNDER DIFFICULTIES; in two volumes, with Preface and Notes, by FRANCIS WAYLAND, D. D., *President of Brown University.*

THE PURSUIT OF KNOWLEDGE UNDER DIFFICULTIES, illustrated by incidents in the Lives of AMERICAN INDIVIDUALS; in one volume, with Portraits.

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ASTRONOMY, by DENNISON OLMSTED, *Professor of Natural Philosophy and Astronomy in Yale College.*

This work will be a popular treatise on the Science; it will also enter fully into its history, and consider the subject of Natural Theology, so far as it is related to Astronomy.

NATURAL PHILOSOPHY, by PROFESSOR OLMSTED.

Both of these works will be very fully illustrated by diagrams and wood engravings.

THE USEFUL ARTS, considered in connexion with the Applications of Science; in two volumes, with many cuts, by JACOB BIGELOW, M. D., *Professor of Materia Medica in Harvard University, Author of 'the Elements of Technology,' &c. &c.*

We subjoin a summary of the Topics discussed in the several chapters of this Important Work, that its nature and objects may be the more clearly understood.

CHAPTER I.

Outline of the History of the Arts in Ancient and Modern Times.

Arts of the Egyptians, Assyrians, Jews, Hindoos, Chinese, Greeks, Romans, Dark Ages, Modern Times, Nineteenth Century.

CHAPTER II.

Of the Materials used in the Arts.

Materials from the Mineral Kingdom—Stones and Earths—Marble, Granite, Sienite, Freestone, Slate, Soapstone, Serpentine, Gypsum, Alabaster, Chalk, Fluor Spar, Flint, Porphyry, Buhrstone, Novaculite, Precious Stones, Emery, Lead, Pumice, Tufa, Peperino, Tripoli, Clay, Asbestus, Cements, Limestone, Puzzolana, Tarras. *Other Cements*—Maltha. *Metals*—Iron, Copper, Lead, Tin, Mercury, Gold, Silver, Platina, Zinc, Antimony, Bismuth, Arsenic, Manganese, Nickel. *Combustibles, &c*—Bitumen, Amber, Coal, Anthracite, Graphite, Peat, Sulphur. *Materials from the Vegetable Kingdom*—Wood, Bark, Oak, Hickory, Ash, Elm, Locust, Wild Cherry, Chestnut, Beech, Basswood, Tulip Tree, Maple, Birch, Button Wood, Persimmon, Black Walnut, Tupelo, Pine, Spruce, Hemlock, White Cedar, Cypress, Larch, Arbor Vitæ, Red Cedar, Willow, Mahogany, Boxwood, Lignum Vitæ, Cork, Hemp, Flax, Cotton, Turpentine, Caoutchouc, Oils, Resins, Starch, Gum. *Materials from the Animal Kingdom*—Skins, Hair, and Fur, Quills and Feathers, Wool, Silk, Bone and Ivory, Horn, Tortoise Shell, Whale Bone, Glue, Oil, Wax, Phosphorus. *Materials used in Painting, Dyeing, and Varnishing.*

CHAPTER III.

Of the Form and Strength of Materials.

Modes of Estimation, Stress and Strain, Resistance, Extension, Compression, Lateral Strain, Stiffness, Tubes, Strength, Place of Strain, Incipient Fracture, Shape of Timber, Torsion, Limit of Bulk, Practical Remarks.

CHAPTER IV.

The Preservation of Materials.

Stones, Metals, Organic Substances, Temperature, Dryness, Wetness, Antiseptics. Timber—Felling, Seasoning. Preservation of Timber.—Preservation of Animal Texture—Embalming, Tanning, Parchment, Catgut, Gold Beater's Skin. Specimens in Natural History—Appert's Process.

CHAPTER V.

Of Dividing and Uniting Materials.

Cohesion. *Modes of Division*—Fracture, Cutting Machines, Penetration, Boring and Drilling, Turning, Attrition, Sawing, Saw Mill, Circular Saw, Crushing, Stamping Mill, Bark Mill, Oil Mill, Sugar Mill, Cider Mill, Grinding, Grist Mill, Color Mill. *Modes of Union*—Insertion, Interposition, Binding, Locking, Cementing, Glueing, Welding, Soldering, Casting, Fluxes, Moulds.

CHAPTER XVIII.

Arts of Combining Flexible Fibres.

Theory of Twisting, Rope Making, *Cotton Manufacture*, Elementary Inventions, Batting, Carding, Drawing, Roving, Spinning, Mule Spinning, Warping, Dressing, Weaving, Twilling, Double Weaving, Cross Weaving, Lace, Carpeting, Tapestry, Velvets, Linens, *Woolens*, *Felting*, *Paper Making*.

CHAPTER XIX.

Arts of Horology.

Sun Dial, Clepsydra, Water Clock, Clock Work, Maintaining Power, Regulating Movement, Pendulum, Balance, Scapement, Description of a Clock, Striking Part, Description of a Watch.

CHAPTER XX.

Arts of Metallurgy.

Extraction of Metals, Assaying, Alloys, *Gold*, Extraction, Cupellation, Parting, Cementation, Alloy, Working, Gold Beating, Gilding on Metals, Gold Wire, *Silver*, Extraction, Working, Coining, Plating, *Copper*, Extraction, Working, Brass, Manufacture, Buttons, Pins, Bronze, *Lead*, Extraction, Manufacture, Sheet Lead, Lead Pipes, Leaden Shot, *Tin*, Block Tin, Tin Plates, Silvering of Mirrors, *Iron*, Smelting, Crude Iron, Casting, Malleable Iron, Forging, Rolling and Slitting, Wire Drawing, Nail Making, Gun Making, Steel, Alloys of Steel, Case Hardening, Tempering, Cutlery.

CHAPTER XXI.

Arts of Vitrification.

Glass, Materials, Crown Glass, Fritting, Melting, Blowing, Annealing, Broad Glass, Flint Glass, Bottle Glass, Cylinder Glass, Plate Glass, Moulding, Pressing, Cutting, Stained Glass, Enamelling, Artificial Gems, Devitrification, Reaumur's Porcelain, Crystallo-Ceramie, Glass Thread, Remarks.

CHAPTER XXII.

Arts of Induration by Heat.

Bricks, Tiles, Terra Cotta, Crucibles, Pottery, Operations, Stone Ware, White Ware, Throwing, Pressing, Casting, Burning, Printing, Glazing, China Ware, European Porcelain, Etruscan Vases.

A FAMILIAR TREATISE ON THE CONSTITUTION OF THE UNITED STATES, by the Hon. JUDGE STORY, L L. D., *Author of 'Commentaries on the Constitution,' &c.*

LIFE OF DR. FRANKLIN.

SELECTIONS FROM THE WRITINGS OF FRANKLIN, by JARED SPARKS, L L. D., *Professor of History in Harvard University, Author of 'the Life and Writings of Washington,' 'the Life and Writings of Franklin,' &c .&c.*

CHRISTIANITY AND KNOWLEDGE, by the Rev. ROYAL ROBBINS.

The design of this Work is to show what Christianity has done for the human intellect, and what that has done for Christianity.

THE LORD OF THE SOIL, OR, PICTURES OF AGRICULTURAL LIFE; by Rev. WARREN BURTON, *Author of 'The District School as it Was,' &c. &c.*

SCIENCE AND THE ARTS, by the Rev. ALONZO POTTER, D.D., *Professor of Moral Philosophy and Rhetoric, in Union College, Schenectady, N. Y.*

The design of this Work is to call attention to the fact that the Arts are the result of *intelligence*—that they have, each one its *principles* or *theory*—that these principles are furnished by *Science*, and that he, therefore, who would understand the Arts, must know something of Science; while, on the other hand, he who would see the true power and worth of Science ought to study it in its applications. The work will be made up of *facts*, illustrating and enforcing these views—so arranged as to exhibit the invariable connexion between *processes* in *Art*, and *laws* in *Nature*. The importance of such a work requires no comment.

AGRICULTURE, by the Hon. JUDGE BUEL, of Albany, *Editor of 'the Cultivator.'*

This Work is intended as an aid to the *Young Farmer*, and from the known character of the gentleman who has it in hand, there can be no doubt but that it will be executed in a highly satisfactory manner. The following, among other subjects, will be therein treated of, viz.

1. The Importance of Agriculture to a Nation.
2. Improvement in our Agriculture practicable and necessary.
3. Some of the principles of the new and improved Husbandry.
4. Agriculture considered as an Employment.
5. Earths and Soils.
6. Improvement of the Soil.
7. Analogy between Animal and Vegetable Nutrition.
8. Further Improvement of the Soil.
9. " " by Manures, Animal and Vegetable.
10. " " by Mineral Manures.
11. Principles and Operations of Draining.
12. Principles of Tillage.
13. Operations of Tillage, &c. &c.

Due notice will also be taken of alternating crops, root husbandry, mixed husbandry, the management of pasture and meadow lands, the garden, orchard, &c.

Cuts, illustrative of the various operations spoken of and recommended, will be given.

GEOLOGY AND MINERALOGY, by CHARLES T. JACKSON, M. D., *Geological Surveyor of Maine and Rhode Island.*

STATISTICS OF THE UNITED STATES, by GEORGE TUCKER, *Professor of Moral Philosophy in the University of Virginia, Author of 'the Life of Jefferson,' &c. &c.*

AMERICAN TREES AND PLANTS, used for medicinal and economical purposes and employed in the Arts, with numerous engravings; by Professor JACOB BIGELOW, *Author of 'Plants of Boston,' 'Medical Botany,' &c. &c.*

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SKETCHES OF AMERICAN CHARACTER, by Mrs. SARAH J. HALE, *Editor of 'the Ladies' Book,' Author of the 'Ladies' Wreath,' 'Flora's Interpreter,' &c. &c.*

DO RIGHT AND HAVE RIGHT, by Mrs. ALMIRA H. LINCOLN PHELPS, *Principal of the Literary Department of the Young Ladies' Seminary, at West Chester, Pa., formerly of the Troy Seminary, N. Y., Author of 'Familiar Lectures on Botany,' 'Female Student,' &c.*

The object of this Work may be gathered from the following remarks of Mrs. Phelps. "A popular work on the principles of law, with stories illustrating these principles, might be very profitable to people in common life, as well as to children. The ward cheated by a guardian, the *widow* imposed on by administrators or executors, the *wife* abandoned by a husband, with whom she had trusted her paternal inheritance, the *partner* in business, overreached by his crafty associate, for want of a knowledge of the operations of the law,—all these might be exhibited in such a way as to teach the necessity of legal knowledge to both sexes, and to all ages and classes."

SCENES IN THE LIFE OF JOANNA OF SICILY, by Mrs. E. F. ELLET, *of Columbia, S. C.*

This is written with a view to young readers, and for the purpose of illustrating important historical events.

The Publishers have also in preparation for this Series, a History of the United States, and of other Countries, a History of the Aborigines of our Country, a History of Inventions, Works on Botany, Natural History, &c. &c. Many distinguished writers, not here mentioned, have been engaged, whose names will be in due time announced, although at present, we do not feel at liberty to make them public.

Among the works prepared, and in a state of forwardness, for the *Juvenile Series* are the following, viz.

MEANS AND ENDS, OR SELF TRAINING, by Miss CAROLINE SEDGWICK, *Author of 'The Poor Rich Man, and Rich Poor Man,' 'Live and Let Live,' 'Home,' &c. &c.*

NEW-ENGLAND HISTORICAL SKETCHES, by N. HAWTHORNE, *Author of 'Twice Told Tales,' &c.*

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THE WONDERS OF NATURE, by A. J. STANSBURY, Esq., of *Washington City;* illustrated by numerous cuts.

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PLEASURES OF TASTE, AND OTHER STORIES selected from the Writings of JANE TAYLOR, with a sketch of her life, (and a likeness,) by Mrs. S. J. HALE.

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SELECTIONS FROM THE WORKS OF MRS. SHERWOOD, *with a Life and Portrait.*

SELECTIONS FROM THE WORKS OF DR. AIKIN, *with a Sketch of his Life, by* MRS. HALE.

CHEMISTRY FOR BEGINNERS, by BENJAMIN SILLIMAN, Jr., *Assistant in the Department of Chemistry, Mineralogy, and Geology in Yale College;* aided by Professor SILLIMAN.

MY SCHOOLS AND MY TEACHERS, by Mrs. A. H. LINCOLN PHELPS.

The author's design in this work, is to describe the Common Schools as they were in New-England at the beginning of the present century; to delineate the peculiar characters of different Teachers; and to give a sketch of her various school companions, with their progress in after life, endeavoring thereby to show that the child, while at school, is forming the future man, or woman.

It is not the intention of the Publishers to drive these works through the Press with an undue speed, in the hope of securing the market, by the multiplicity of the publications cast upon the community; they rely for patronage, upon the intrinsic merits of the works, and consequently time must be allowed the writers to mature and systematize them. The more surely to admit of this, the two Series will be issued in sets of five and ten volumes at a time. Besides the advantage above alluded to, that will result from such an arrangement, it will place THE SCHOOL LIBRARY within the reach of those Districts, which, from the limited amount of their annual funds, would not otherwise be enabled to procure it.

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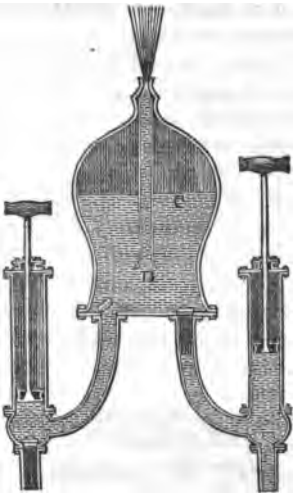
Annexed are Specimen Pages of the two Series.



carried into the reservoir, and they fill it half full of water, C; the mouth of the pipe, D, which is to convey away the water, reaches into the water in the reservoir. As the water rises, the air is compressed: so that, although the pumps act alternately, the elasticity of the contained air acts uninterruptedly in pressing on the surface of the water, and raising it by the tube, D, in an equable stream. The elasticity of the contained air, fills up the interval between the actions of the pumps, and admits of no interruption to the force with which the water is propelled upwards.

Surely these are sufficient indications of the necessity of three powers acting in propelling the blood from the heart. The first, is a sudden and powerful action of the ventricle: the second, is a contraction of the artery, somewhat similar, excited by its distention: the third, though a property independent of life, is a power permitting no interval or alternation; it is the elasticity of the coats of the artery: and these three powers, duly adjusted, keep up a continued stream in the blood-vessels. It is true, that when an artery is wounded, the blood flows

The superior sagacity of animals which hunt their prey, and which, consequently, depend for their livelihood upon their *nose*, is well known in its use; but not at all known in the organization which produces it.

The external *ears* of beasts of prey, of lions, tigers, wolves, have their trumpet-part, or concavity, standing forward, to seize the sounds which are before them—viz., the sounds of the animals which they pursue or watch. The ears of animals of flight are turned backward, to give notice of the approach of their enemy from behind, whence he may steal upon them unseen. This is a critical distinction, and is mechanical; but it may be suggested, and, I think, not without probability, that it is the effect of continual habit.

[Heads of the hare and wolf, showing the different manner in which the ears are turned.—Am. Ed.]

The *eyes* of animals which follow their prey by night, as cats, owls, &c., possess a faculty not given to those of other species, namely, of closing the pupil *entirely*.

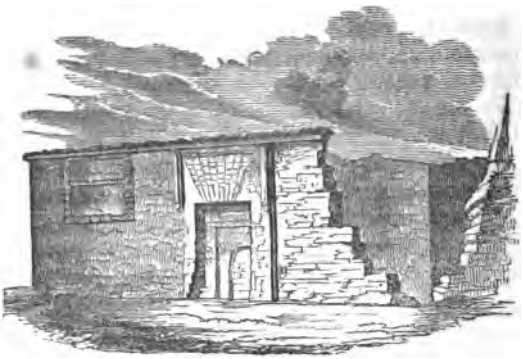
It is difficult even for the imagination to conceive the feelings of such a man, at the moment of so sublime a discovery. What a bewildering crowd of conjectures must have thronged upon his mind, as to the land which lay before him, covered with darkness. That it was fruitful was evident from the vegetables which floated from its shores. He thought, too, that he perceived in the balmy air the fragrance of aromatic groves. The moving light which he had beheld, proved that it was the residence of man. But what were its inhabitants? Were they like those of other parts of the globe; or were they some strange and monstrous race, such as the imagination in those times was prone to give to all remote and unknown regions? Had he come upon some wild island, far in the Indian seas; or was this the famed Cipango itself, the object of his golden fancies? A thousand speculations of the kind must have swarmed upon him, as he watched for the night to pass away; wondering whether the morning light would reveal a savage wilderness, or dawn upon spicy groves, and glittering fanes, and gilded cities, and all the splendors of oriental civilization.

CHAPTER XI.

First Landing of Columbus in the New World.—Cruise among the Bahama Islands.—Discovery of Cuba and Hispaniola. [1492.]

When the day dawned, Columbus saw before him a level and beautiful island, several leagues in extent, of great freshness and verdure, and covered with trees like a continual orchard. Though every thing appeared in the wild luxuriance of untamed nature, yet the island was evidently populous, for the inhabitants were seen issuing from the woods, and running from all parts to the shore. They were all perfectly naked, and from their attitudes

residence of Martin Alonzo or Vicente Yañez Pinzon, in the time of Columbus.



We now arrived at the church of St. George, in the porch of which Columbus first proclaimed to the inhabitants of Palos the order of the sovereigns, that they should furnish him with ships for his great voyage of discovery. This edifice has lately been thoroughly repaired, and, being of solid mason-work, promises to stand for ages, a monument of the discoverers. It stands outside of the village, on the brow of a hill, looking along a little valley toward the river. The remains of a Moorish arch prove it to have been a mosque in former times; just above it, on the crest of the hill, is the ruin of a Moorish castle.

I paused in the porch, and endeavored to recall the interesting scene that had taken place there, when Columbus, accompanied by the zealous friar Juan Perez, caused the public notary to read the royal order in presence of the astonished alcaldes, regidors, and alguazils; but it is difficult to conceive the consternation that must have been struck into so remote a little community, by this sudden apparition of an entire stranger among them, bearing a command that they should put their persons and ships at his disposal, and sail with him away into the unknown wilderness of the ocean.

The interior of the church has nothing remarkable,

work of creation and the work of grace revealed in the word of God. Proofs corroborative of the authenticity of the Bible, have been gathered from those very sources which formerly were applied to by the skeptic for his sharpest weapons; and at this moment, (such is the security with which Christianity may regard the progress of knowledge,) there does not exist in our own country, nor, so far as I am aware, in any other, one philosopher of eminence who has ventured to confront Christianity and philosophy, as manifestly contradictory. May we not venture to hope that, in a very short time, the weak darts of minor spirits, which from time to time are still permitted to assail our bulwarks, will be also quenched, and the glorious Gospel, set free from all the oppositions of science falsely so called, shall walk hand in hand over the earth with a philosophy always growing in humility, because every day becoming more genuine. C. J. C. D.

TWELFTH WEEK—MONDAY.

VEGETABLE SUBSTANCES USED FOR WEAVING.—THE COTTON-PLANT.

THE cotton-plant, another vegetable substance, extensively used in manufactures, differs materially from that already described, in its properties, appearance, and habits. Instead of being generally diffused over temperate climates, it belongs more properly to the torrid zone, and the regions bordering on it; and instead of being chiefly confined to one species, as to its peculiar and useful qualities, its varieties seem scarcely to have any limit, extending from an herb* of a foot or two in height, to a tree†

* Gossypium herbaceum, or common herbaceous cotton-plant.

† Bombax ceiba, or American silk cotton-tree.—[The Baobab, or *Adansonia digitata*, an enormous and long-lived tree, also belongs to this family. But it is incorrect to call these trees "varieties" of the cotton plant. They are nearly allied to it, indeed, but they stand in different divisions of the great order of *malvaceæ*, or mallows; and the downy contents of their pods are of little use compared with true cotton. —AM. ED.]

Coup de main, (French term,) a military expression, denoting an instantaneous, sudden, unexpected attack upon an enemy.

Dulce et decorum est pro patria mori, It is delightful and glorious to die for one's country.

Effigies Seb. Caboti Angli filii Joannis Caboti militis aurati. As will be seen by the text, where this inscription occurs, (p. 121,) there is an ambiguity in the application of the last two words. The other part of the inscription, may be rendered, "the portrait (or likeness) of Sebastian Cabot, of England, son of John Cabot." *Miles*, or *militis*, means, literally, a warrior, or soldier, or officer of the army; and in the English law, sometimes indicates a knight. *Auratus*, or *aurati*, means gilt, gilded, or decked with gold. *Eques* means a horseman, or knight, who was frequently called *eques auratus*, because, anciently, none but knights were allowed to beautify their armor, and other habiliments, with gold.

En masse, in a body, in the mass, altogether.

Eques, and *Eques auratus*. See *Effigies*.

Fascine, (pl. *fascines*,) a bundle of fagots, or small branches of trees, or sticks of wood, bound together, for filling ditches, &c.

Formula, (pl. *formulæ*,) a prescribed form or order.

Geodætic, relating to the art of measuring surfaces.

Gramina, grasses.

Green Mountain Boys, a term applied, during the Revolutionary War, to the inhabitants of Vermont, (Green Mountain,) particularly those who were in the army.

Gymnotus, the electric eel.

Habeas Corpus, "you may have the body." A writ, as it has been aptly termed, of personal freedom; which secures, to any individual, who may be imprisoned, the privilege of having his cause immediately removed to the highest court, that the judges may decide whether there is ground for his imprisonment or not.

Hipparchus, a celebrated mathematician and astronomer of Nicæa, in Bithynia, who died 125 years before the Christian era. He was the first after Thales and Sulpicius Gallus, who found out the exact time of eclipses, of which he made a calculation for 600 years. He is supposed to have been the first, who reduced astronomy to a science, and prosecuted the study of it systematically.

Loyalists, Royalists, Refugees, and Tories. In the times of the Revolution, these terms were used as technical or party names, and were sometimes applied indiscriminately. Strictly speaking, however, *Loyalists*, were those whose feelings or opinions were in favor of the mother country, but who declined taking part in the Revolution; *Royalists*, were those who preferred or favored, a kingly government; *Refugees*, were those who fled from the country and sought the protection of the British; and *Tories*, were those, who actually opposed the war, and took part with the enemy, aiding them by all the means in their power.

Magnetic Variation, a deviation of the needle in the mariner's compass, from an exact North and South direction.

Master-at-arms, an officer appointed to take charge of the small arms in a ship of war, and to teach the officers and crew the exercise of

ring it all the time. Of course I do not make it every time it is wanted, for sometimes, when I want it extra good, I boil and stir it a full hour, and then I put it away in a close vessel and in a cool place. For Raymond, or for any one getting well, and free from fever, I put in a third wheat flour, and half milk. You see it is a very simple process, sir."

"Yes—simple enough. But it is to these simple processes that people will not give their attention."

Mary had the happiness of seeing Raymond sitting up before their parents returned, and when they drove into the great gate, and up the lane, he was in his rocking-chair by the window, watching for them. They had heard of his illness, and were most thankful to find him so far recovered. The Doctor chanced to be present when they arrived. "O, Doctor!" said Mrs. Bond, after the first greetings were over, "how shall I ever be grateful enough to you?"

"I have done very little, Mrs. Bond," replied the honest Doctor. "In Raymond's case, medicine could do little or nothing. Nature had been overtasked, and wanted rest and soothing. Under God, Raymond owes his recovery to Mary."

"O, mother!" exclaimed Raymond, bursting into tears, "she is the best sister in the world!"

"She is the best sister in the *two* worlds!" cried little Grace Bond, a child of five years old.

A source of true comfort and happiness is such a child and such a sister as Mary Bond!—a light

us, as soon as we are missed; let us keep on and perhaps we may find some other path."

The poor children proceeded on their course, unconscious that every step was taking them deeper into the forest, until, completely bewildered by the thick darkness, and overcome with fatigue, they could go no further. "Let us pray to God, and then we can lie down, and die in peace," said George; and the innocent children knelt down on the fallen leaves, and lisped their simple prayers, as they were accustomed to do at their mother's side.

"We must try to find some shelter, George," said Kate, as they arose from their knees, "this chill air will kill you, even if we escape the wild beasts." As she spoke, the light of a young moon which faintly illumined the depths of the wood, enabled her to discover a hollow log lying near. Tearing off some branches from the brittle hemlock tree, she piled them around the log, in such a manner, as to form a sort of penthouse; and, placing George within the more effectual shelter of the log, she lay down by his side. Worn with fatigue, notwithstanding their fears, the children soon fell into a profound sleep; and the beams of the morning sun, shining through the branches which formed their covering, first awoke them from their peaceful slumbers.

Their little hearts swelled with gratitude to the merciful God, who had preserved them through the perils of the night, and the morning hymn which was wont to resound within the walls of their

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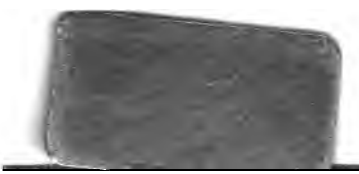
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